



Mayfair NURSERIES

BOX 87

HILLSDALE, NEW JERSEY



Drawing by Frederic W. Oswald

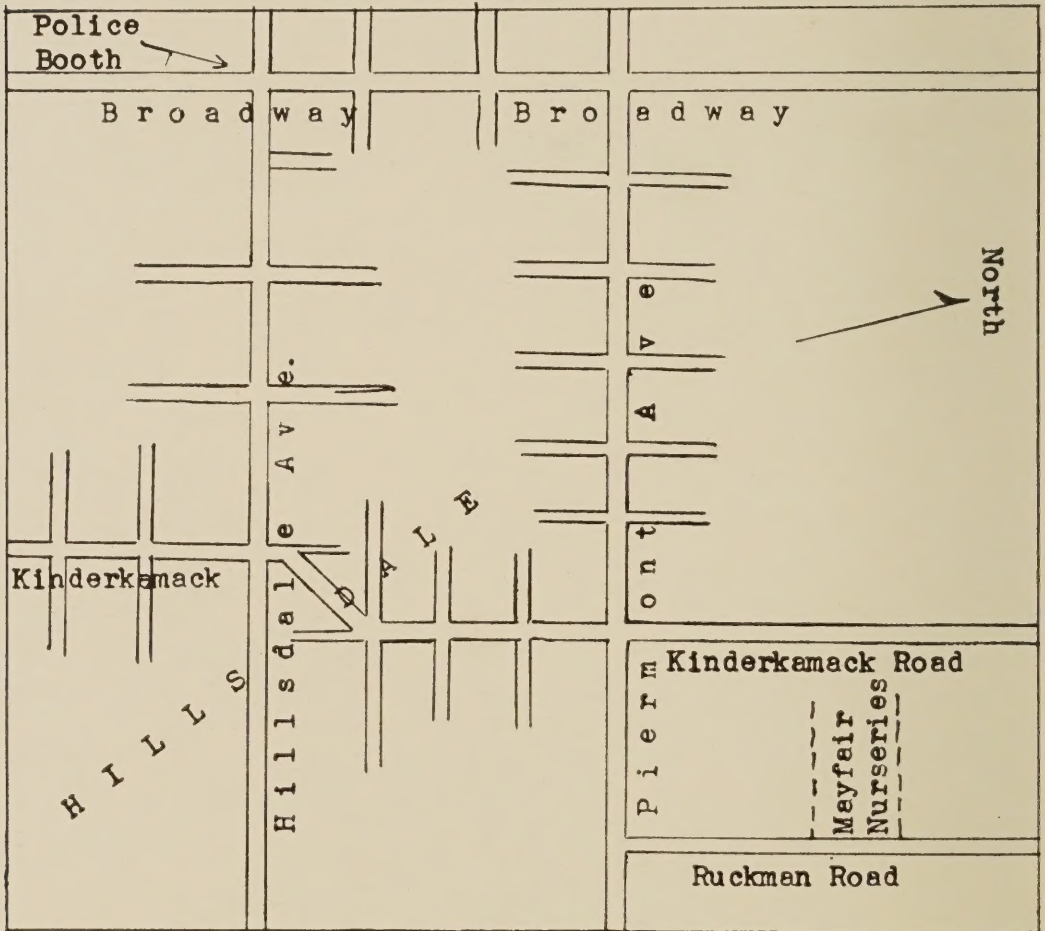
RAMONDA PYRENAICA

1954
**HANDBOOK OF ALPINES
and
ROCK GARDEN PLANTS**

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WALTER A. KOLAGA
Hillsdale, New Jersey

VISITORS WELCOME

Our nursery is not a show place, however our landscaping and rock garden construction will be started early in 1954. Although we do not have a finished rock garden we are quite sure you will be amply rewarded for your visit by viewing the many thousands of rare and interesting plants we have thriving in our cold frames and open beds. Our hours are from 8:00 A.M. to 5:00 P.M. (time out for lunch at noon) everyday except Wednesday and Sunday. We are closed all day Wednesday and after 12:00 noon on Sunday.



Mayfair Nurseries, Ruckman Road, Hillsdale, N. J.

Hillsdale, Bergen County, New Jersey is shown on all good New Jersey road maps. Once you get to Hillsdale, it will be easy to find Mayfair Nurseries with the use of the above sketch. Make a phone call or drop a postcard in the mail before you come and you will be assured of finding someone to welcome you when you arrive.

Phone, WEstwood 5-0910

Walter A. Kolaga, Proprietor

MAYFAIR NURSERIES

BOX 87
HILLSDALE, NEW JERSEY

INTRODUCTION

Our purpose in preparing this Handbook is twofold. Mainly, to be frank with you, to sell our plants although we have not listed prices. We will publish a free price list every year. The second reason, no less important than the first is our attempt to acquaint you, to the best of our ability, with the alpine and rock plants that are most suited to our climate and to arouse the interest of plant lovers in growing the more difficult of the rare alpine and little known native American plants. The list of desirable plants for rock gardens, wall and terrace gardens, bog and peat gardens, sink and trough gardens, wild gardens and any other phase of gardening employing dwarf material is seemingly endless. The species and varieties number into the thousands. An attempt to catalogue all of them would take years of work and would fill volume after volume.

In this Handbook we have listed only the plants we have had personal success with. Approximately 700 species and varieties. This we consider a comprehensive list but by no means a complete one. We have purposely left out many varieties of *Sempervivums*, *Sedums*, *Saxifragas* and varieties of some other genera that have only slight differences from some of the kinds listed. We have also omitted many others that we consider unworthy or undesirable. Some for being too weedy or too coarse and others of annual or biennial nature or too tender to be included in a list of hardy perennials and shrubs. We have many more species at the nursery now and the list of likely subjects we would like to try in the ensuing years is as endless as the universe.

Names of plants are important. A good system of names in the botanical field is absolutely essential, therefore we have used the standardized latin names as listed in Bailey's *Hortus II*. In the past few years the botanists have had a field day in changing and juggling names. . . We have ignored all changes that are not listed in *Hortus II*. Common or English names change with the years and from locality to locality. They cannot be used as a basis for any list, however we have used them after the latin names of the plants they are usually applied to in most sections of the country. We have catalogued alphabetically, using the genus name first in bold capitals, followed by the common name and then the family name in parenthesis. The species in the genera are also listed alphabetically, with the genus name, species name and varietal name in bold small letters. If the plant is sometimes listed under another name it is given in parenthesis. If there is a common name usually applied to a specific species it is also given in parenthesis.

The cultural directions are quite complete and if followed will insure your success with any plant you try. However, because of the vastness of our Country these directions must, in most cases, be considered as general formulae. Usually the conditions given for shade, sun, soil and moisture are not absolute requisites. It merely means that they can be tolerated by or are preferred by that particular plant. In many cases a plant tolerating full sun and a dry soil on the eastern seaboard will quickly wither and die if given the same treatment in the mid-western plains. A plant that may be absolutely hardy at sea level will succumb to the withering winds on a mountain top. The cultural directions as outlined correspond to the conditions given our plants here at the nursery. Most plants will tolerate changes in the soil composition and acidity, and many will thrive in completely opposite situations. I have observed self-sown *Dianthus* plants flourishing in a heather bed. I have had *Gaylussacia brachysera* growing in crevices of limestone rocks. I have seen magnificent *sempervivums* in dense shade and an outstanding colony of *Trillium grandiflorum* in full hot sun. In summation, the cultural directions given are the ones tested to give us the best results we deem possible. In our estimation the most important items for the successful cultivation of most alpine and rock plants are an ample water supply and excellent drainage for all but the bog plants.

We have attempted to give an accurate description of every plant listed so that you can get a fair idea of what it will look like in your garden. We have also mentioned some of the special uses of various plants, such as ground cover, wall plant, terrace or walk plant, etc. A true description of the colors of flowers is the most difficult task. Where it has been possible we have classified our specimens with the Horticultural Color Chart issued by the British Colour Council and the Royal Horticultural Society. We have had this chart for a very short time and have been able to check only a small percentage of our plants. We expect to check the remainder of our stock next summer and make special notes of them in our next price list. In the plant descriptions where we have used the color chart we have noted the color with the HCC number and with the color name. For example: *Daphne cneorum*, HCC 24/2, Tyrian Rose; *Draba sibirica*, HCC 2, Canary Yellow; *Primula juliana* Wanda, HCC 732, Dodge Purple. Where we could not check with the color chart we have tried to give as true a description of the color as is possible with our limited knowledge.



Iris Tectorum Album

ROCK GARDEN CONSTRUCTION

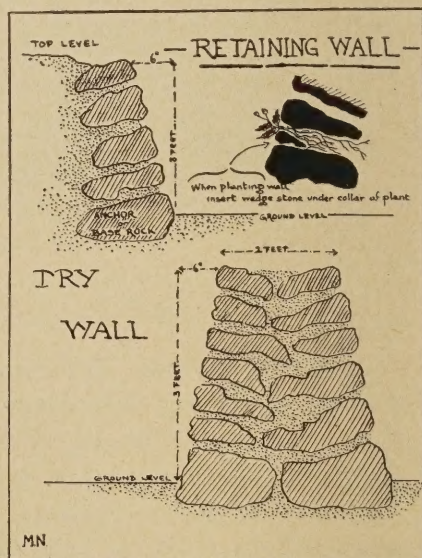
Many people ask "Where can I build a rock garden?". The answer is anywhere. Anywhere your fancy desires. If it is done properly it will become an accent of beauty in the total picture of your landscape. To many people a rock garden consists of a heap of stones with a bit of Mountain Pink and a rampant Sedum growing all over it. Or an ugly bare bank with a few stones standing on end to resemble a graveyard. If you have a so called garden that falls in this category or if you are contemplating building a rock garden in the near future, stop right where you are and READ. We are not going to tell you how to build a rock garden here, for time and space will not permit the undertaking. There are many good books already written on the subject that will help you with the endeavor. The following is a partial list of books selected by Dr. E. T. Wherry as containing helpful information on rock gardening. They are full of much valuable information on rock garden construction, selection of plants, excellent cultural data of the individual species and are alive with vivid illustrations. Read any or all of the following and

you will be rewarded with many hours of enjoyable reading and with a great store of rock gardening knowledge: *Rock Gardens and Rock Plants*, by F. J. Chittenden; *The Present Day Rock Garden*, by Sampson Clay; *Rock Garden and Alpine Plants*, by Henry Correvon; *Rock Garden Plants*, by Clarence Elliott; *The English Rock Garden*, by Reginald Farrer; *American Alpines in the Garden*, by Anderson McCully; *Alpines in Colour and Cultivation*, by T. C. Mansfield; *Natural Rock Gardening*, by B. H. B. Symons-Jeune; *Rock Garden Primer*, by Archie Thornton; *Pleasures and Problems of a Rock Garden*, by Louise B. Wilder. Some of the above books are out of print, however most can be obtained from garden book sellers or public libraries.

WALL GARDENS AND PLANTED WALKS

If it is seemingly impossible to incorporate a rock garden into the existing landscape on small plots, as in some heavily populated suburban areas, it is still possible to enjoy the delightful flower and foliage effect of many tiny alpines in an easily constructed wall garden. Here of course, your selection of plants will be somewhat limited, but nevertheless there is still a long list of fine subjects that are perfectly adaptable to this type of culture and some that will not thrive anywhere else.

If you plan to build a beautiful living wall, build it according to the accompanying sketch. The dimensions given are minimum sizes and the wall may be made thicker if desired. Use rough, flat stones if possible, slanting each stone toward the center. A slant of two inches to a foot of height is enough to catch rain. Instead of using cement to hold it together, use a compost of two-thirds sandy loam and one-third leaf-mold or peat, with a handful of dry sheep or cow manure and bone meal to each pail of compost. Be sure the greatest portion of the wall contains neutral to alkaline soil, necessary for most rock plants. Use the compost dry and fill in between the stones as you would with concrete.



The best stones to use are the flat, soft, moisture retaininb stones, such as sandstone, slate, shale or flagstone. Granite, limestone and the round field stones are also possibilities but they are a bit harder to work with.

PLANTS MOST SUITED FOR DRY OR RETAINING WALLS

Achillea	Asperula	Geranium	Potentilla
Aethionema	Aubrieta	Gypsophila	Santolina
Alyssum	Campanula	Helianthemum	Saponaria
Androsace	Cerastium	Hypericum	Saxifraga
Antennaria	Corydalis	Iberis	Sedum
Aquilegia	Cymbalaria	Silene	Sempervivum
Arabis	Dianthus	Iris	Thymus
Arenaria	Dicentra	Lotus	Tunica
Armeria	Erysimum	Penstemon	Verbena
Artemisia	Ferns	Phlox	Veronica

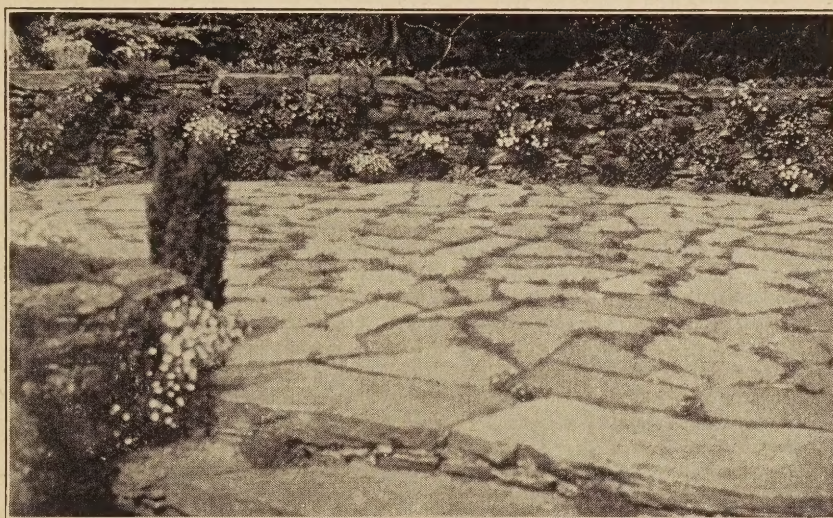


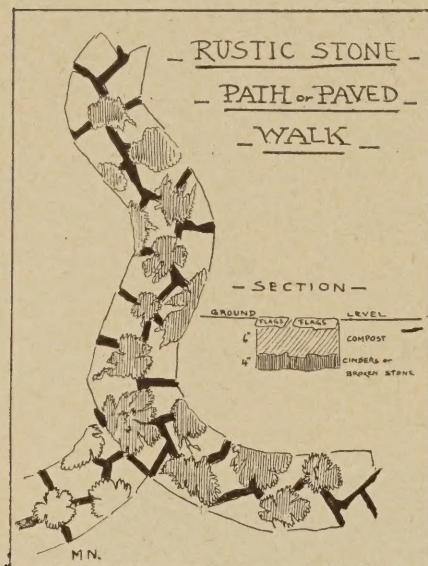
Photo Courtesy of American Rock Garden Society

Terrace and living wall

PLANTED WALK

If even an informal wall garden is incomprehensible in the existing garden you are loath to disturb, there is still the possibility of a flowery path planted with dwarf alpine and rock plants. If you have a garden there must be a path or walk in it somewhere. Why let grass or weeds grow in your stone path, or why build a concrete walk in your garden? A beautiful and out-of-the-ordinary walk can be made of stepping stones planted with low and dwarf compact little gems, tracing with delicate foliage and flowers, the irregular lines and zigzags your fancy has designed.

If you would like to make a planted walk, use the accompanying sketch to guide you, then make a shallow trench the length and width of your path from 8 to 10 inches deep. Fill and pack the bottom with four inches of coarse gravel, broken stone or cinders. The balance should be of good compost made of two-thirds loam and one-third leafmold. Remember this too should be neutral to alkaline. Press your stepping stones into it, making any design you wish. Water thoroughly to set the stones firmly, then plant.



PLANTS FOR WALKS AND TERRACES

Acaena	Dianthus
Achillea	Draba
Antennaria	Gypsophila
Arabis	Houstonia
Arenaria	Mazus
Armeria	Mitchella
Asperula	Muehlenbeckia
Calamintha	Potentilla
Campanula	Thymus
Cymbalaria	Veronica

AMERICAN ROCK GARDEN SOCIETY

The American Rock Garden Society was the answer to a widespread demand for an authoritative national organization to coordinate and direct the pronounced interest that had become manifest in rock gardening and rock garden plants. Organized in 1934 it has accomplished much in furthering the ideas and ideals of this type of gardening, has brought together and put in concrete form the knowledge and experience of many authorities on alpine, rock garden plants and usage, and has disseminated this knowledge among an ever increasing membership.

The American Rock Garden Society attempts to deal intelligently with rock gardening as it is carried on under varying climatic and other conditions to be found in different parts of the country. This is made possible thru the medium of Regional Groups, each organized as a separate unit under the leadership of a regional chairman. Each unit directs its own activities to a large degree but is closely affiliated with the national organization.

The American Rock Garden Society features:

Its own Bulletin. Published quarterly, this is an authoritative, well illustrated journal containing valuable and authentic material, with news and items of interest to its members. Members are invited to use the columns of the Bulletin for various purposes, subject to the approval of the Editor.

Its Seed Exchange. Conducted for the benefit of the members, the Seed Exchange makes available seeds of many rare and unusual plants not readily obtainable through other sources.

The American Rock Garden Society aims to encourage good design and construction in rock gardens; to promote interest in and disseminate information on the cultivation of plants suitable for rock gardens under varying local conditions; to further the adoption of correct nomenclature; to hold meetings and exhibitions, both national and local; to encourage and promote exploration; to furnish information to those who seek it; to make possible for members entree into many gardens; to promote acquaintance between members and groups resulting in a mutual exchange of experiences and knowledge.

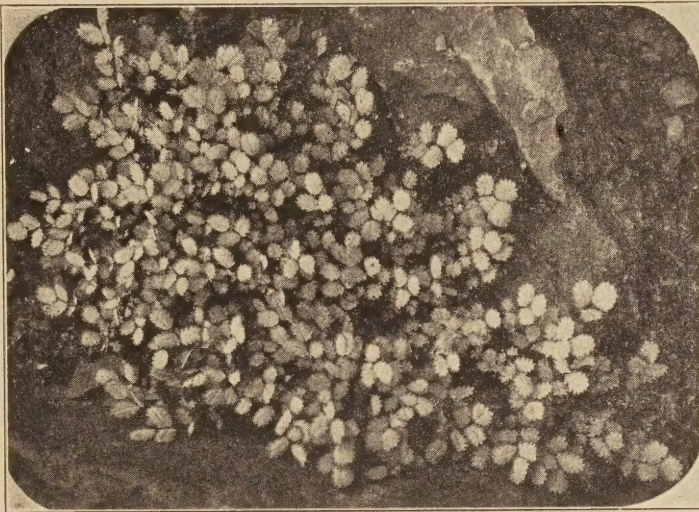
The American Rock Garden Society welcomes your correspondence concerning any phase of their activities.

If you are a rock gardener you should be an American Rock Gardener.

Address all communications to American Rock Garden Society, 19 Pittsford Way Summit, New Jersey

ACAENA. New Zealand Burr. (Rosaceae, Rose Family)

Acaena buchananii. A very low, slowly creeping plant about one inch high with attractive pinnate silver-green, evergreen leaves in dense mats. This native of New Zealand is useful as a ground cover over bulbs in a warm, sunny location. This is primarily a foliage plant with inconspicuous flowers. It succeeds in a well drained or sandy neutral to alkaline soil in full sun. (pH 6-8) Requires protection north of New York.



Acaena buchananii

ACHILLEA. Yarrow. (Compositae, Daisy Family)

Achillea ageratifolia. A compact mound of long, pinnatifid silvery evergreen leaves about 6 inches high. Large flat clusters of pure white daisy flowers on 6 inch stems in June. From the mountains of Greece, it wants a well drained, sandy or gritty lime soil in full sun. (pH 7-8) Excellent for planting in a dry wall or as a low edging plant.

Achillea lewisii. A hybrid between *A. tomentosa* and *A. argentea*. It forms slowly spreading mats of dull green woolly rosettes about two inches high. Large, showy clusters of sulphur yellow flowers on 6 inch stems in July. Give it a gritty, well drained neutral to lime soil. (pH 6-8) Fine for wall, rock crevices and terraces.

Achillea tomentosa aurea. (Woolly Yarrow) A fast growing ground cover of silver-green woolly rosettes that covers the poorest of soils quickly and completely. The attractive evergreen foliage is always neat and is off-set by brilliant yellow flowers on six inch stems in June, July and August. Another native of Greece. To keep it from becoming too rampant give it a poor, sandy soil in full sun. (pH 6-8) Excellent for planting in walks where it does not mind being stepped on. This is a good clear yellow form of the ordinary woolly yarrow.

Achillea tomentosa Moonlight. A form of the woolly yarrow that is greener than the above, a slower spreader with taller flower stems. The 8 to 10 inch stems carry hugh masses of moonlight yellow flowers in June and July. The flowers last a very long time. Does well in ordinary garden soil in full sun. (pH 6-8)

Achillea tomentosa nana. A dwarf and slow growing form of this useful plant. Small gray-green rosettes and clusters of white flowers on four inch stems in June and July. Ordinary garden soil will do but it stays smaller in poor, sandy soil in full sun. (pH 6-8) Very good for planting in walks and terraces.

Achillea umbellata. An attractive species from Greece with densely woolly, long, pinnatifid gray-green leaves in compact evergreen mounds about 4 inches high. It has large, showy umbels of small white flowers on 10 inch stems in May and June. Fine in walls or in any hot, dry, sunny spot in the rock garden. Ordinary garden soil or poor sandy soil. (pH 6-8)

ADIANTUM. Maidenhair Fern. (Polypodiaceae, Fern Family)

Adiantum pedatum. An exquisitely delicate fern of our Northeastern woodlands that forms 12 to 18 inch high masses of very lacy light green fronds on purple stipes. It requires a moist, acid leafmold soil in shade or 1/6 sun if the soil stays damp all summer. One of the best plants for a dark, shady spot where not much else will grow. (pH 4-6)

ADONIS. Pheasant's Eye. (Ranunculaceae, Buttercup Family)

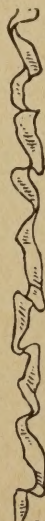
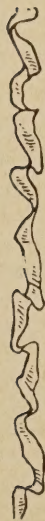
Adonis vernalis. Really an exceptional plant that deserves special attention. In the bleak days of February this Herald of Spring begins to show its golden color and with each succeeding warm spell the flowers get bigger and brighter. At ternate freezing and thawing does not injure the blossoms. In March and April the plant is a mass of glowing, multipetaled yellow flowers about 3 inches in diameter, carried on short stems over 12 inch mounds of delicate ferny foliage. This remarkable plant is in bloom from February to May and in June the foliage disappears completely. It does well in sun or semi-shade in a rich, acid to neutral garden soil. (pH 6-7)

AETHIONEMA. Stone-cress. (Cruciferae, Mustard Family)

Aethionema iberidium. A pretty little cushion forming shrub about 6 inches high with very dense, tiny gray leaves topped with large showy clusters of white flowers in April and May. Always neat and attractive and one of the easiest of the Aethionemas to grow. This gem from Asia Minor is perfectly adaptable to a dry sunny spot in the rock garden or for a conspicuous place in the dry wall garden. It likes a gritty lime soil in full sun. (pH 7-8)

Aethionema pulchellum. (*Aethionema cordifolium*, *Iberis jocunda*) (Lebanon Candy-tuft) A low shrub from 5 to 8 inches high with horizontally spreading branches clothed with shimmering blue leaves that are greatly accentuated in June when the plant is adorned with large clusters of delicately colored fragrant flowers. Color HCC 31/2. Orchid Purple. Another Asia Minor native suited to hot dry rock gardens and wall gardens. It requires a gritty lime soil in full sun. (pH 7-8)

Aethionema warleyense. A dainty hybrid that forms compact mats about 3 inches high. The branches trail over the ground and are crowded with fleshy steel-blue leaves. In May and June this evergreen plant is covered with many clusters of very pretty deep pink flowers. One of the most popular of the Stone-cresses that is loved by everyone who sees it. A wonderful wall plant for gritty lime soil in full sun. (pH 7-8)



Courtesy American Rock Garden Society

Aethionema Warleyense

AJUGA. Bugle-Weed. (Labiatae, Mint Family)

Ajuga Reptans. (Carpet Bugle) A very fast spreader that forms solid green carpets of large leafy rosettes which are pierced in May and June by many showy spikes of deep blue flowers. It is too weedy for the rock garden, but excellent for covering ugly banks or shady places where nothing else will grow. It is not particular as to soil or exposure. It thrives in sun or shade and poor sandy soil will do as well as good garden soil. (pH 6-8)

Ajuga reptans alba. The same as the preceding plant but the leaves are of a fresh apple green color with bold flower spikes of pure white flowers. Same conditions and soil as above. This seems to be a weak albino that dies out quickly and winter kills easily.

Ajuga reptans brockbankii. (Clump Bugle) A good variety of Bugle that does not creep. A clumpy plant of lush green foliage and eight inch spikes of clear blue flowers from May to July. It can be planted without danger of it taking over the entire garden. Sun or shade in any ordinary garden soil. (pH 6-8)

Ajuga reptans metalica crispa. Another fast growing ground cover with crisp, wavy, bronzy foliage that turns a rich purple color in fall. Stout 8 inch spikes of clear blue flowers in May and June. Plant this where it has space to spread in any soil in sun or shade. (pH 6-8)

Ajuga reptans variegata. Another creeping bugle, but this one is not as robust as the others. The foliage is variegated with deep green, light green and pale yellow, with purple edges in winter. The flowers are a clear light blue in May and June. Ordinary soil in sun or shade. This one does best in half shade. (pH 6-8)

ALLIUM. Onion. (Liliaceae, Lily Family)

Allium cernuum. A bulbous plant that forms large clumps of long, roundish leaves from which spring many 18 inch flowering stems that bear large nodding umbels of little bell shaped flowers of a pale rosy-purple color in June, July, and August. An American native very useful for summer color in the rock garden, for massing in the border and for naturalizing at the edge of the wild garden. It likes sun and any ordinary garden soil. (pH 5-8)

Allium cyaneum. The gem of the race! A delicate little beauty that deserves a place of honor in your rock garden. Dense tufts of very thin, grass-like leaves about 6 inches high and slender flower stems that carry loose, nodding umbels of clear royal blue flowers in June and July. A native of China that is easy to grow but easy to lose if it becomes overgrown with grass. This fine plant wants sun and a good light loam that is well drained. (pH 6-8)

Allium farrerii. A refined species for bright summer color in the rock garden. Eight inch high clumps of grassy leaves, topped with umbels of bright red-purple flowers in July. It thrives in any ordinary garden soil in sun or part shade. (pH 5-8)

Allium flavum minor. Long thin leaves in loose clumps about 12 inches high with spectacular burstin, sky-rockets of bright yellow bells on 18 inch stems in June and July. This species should be planted close together, behind a shorter, more leafy plant to show its true beauty. It takes full sun in any ordinary soil. (pH 6-8)

Allium schoenoprasum. (Chives) This well known herb garden subject grows into dense clumps of long thin leaves about 10 inches high, beset with countless umbels of bright rosy-purple flowers in June and July. This one is good to eat and excellent for summer color in the rock garden. It thrives anywhere in sun or light shade. (pH 6-8)

Allium senescens glaucum. (Twister Plant) Neat tufts of flat scyth shaped blue-gray leaves that grow into dense clumps. All the leaves twist in the same direction to make an attractive swirl. It has showy pink flowers on 8 to 10 inch stems in August and September. It is easy to grow in full sun and ordinary garden soil. (pH 6-8)

Allium sikkimense. This may not be the true name but it is the closest we can arrive at. Short flat, dark green leaves in heavy clumps and large dense flower heads on 10 inch stems carry many tiny lilies of a deep violet color in July and August. This outstanding summer blooming species comes from Sikkim in the Himalaya Mountains and is easy to establish in any ordinary soil in full sun. (pH 6-8)

ALYSSUM. Madwort. (Cruciferae, Mustard Family)

Alyssum condensatum. A compact, prostrate plant about one inch high with small thick, gray evergreen leaves. Very pretty clusters of lemon yellow flowers on 3 inch stems in May and June. A desirable and attractive little tufted plant from the mountains of Syria. It requires a loose sandy loam in full sun. Soil should be alkaline and good drainage is essential. (pH 7-8)

Alyssum murale. A large rounded mound of silvery leaves about 8 inches high with a halo of tiny golden flowers in loose, airy sprays on 12 inch stems from June to August. Easy to grow in any ordinary soil in full sun. (pH 6-8) A very good wall plant.

Alyssum saxatile. (A saxatile compactum) (Basket of Gold) This old familiar plant forms a compact mound of silvery green foliage about 12 inches high and just as broad, topped by many recemes of golden yellow flowers in early May. Excellent for dry walls as well as the rock garden. It is difficult to transplant but once established it will live for years. It needs a well drained soil in full sun. (pH 6-8)

Alyssum saxatile citrinum. A striking contrast to the plant above. The same attractive silvery foliage topped with a shower of pale lemon yellow flowers. A favorite color with plant lovers.

Alyssum saxatile flore-pleno. An interesting and very floriferous double form of the Basket of Gold. Because the flowers are double it stays in bloom much longer than the single forms. A great mass of true golden yellow flowers in May and June. Same soil and exposure as A saxatile.

Alyssum saxatile Dudley Nevile. A new introduction with an entirely different color form in this very useful plant. The plants are much dwarfer and more compact than the others and the flower stems are shorter. Color, HCC 503, Barium Yellow.

Alyssum serpyllifolium. (Perhaps A. alpestre) This species forms a close mat of tiny silvery leaves, hidden by showy yellow flowers on four inch stems in May and June. Excellent for the wall and for trailing over rocks. It requires a well drained, gritty lime soil in full sun. (pH 7-8)

Alyssum spinosum. One of the best and perhaps the most difficult of the Alyssums. A stiff, spiny little gray leaved shrub about 8 inches high, entirely covered with clusters of dainty white flowers in June that turn pink with age. This greatly admired little shrub comes from Southern Europe and North Africa, yet it is perfectly hardy and permanent if given a well drained, gritty lime soil in full sun. (pH 7-8)



Alyssum spinosum

ANDROMEDA. Bog Rosemary. (Ericaceae, Heath Family)

Andromeda glaucophylla. One of the most charming of the dwarf evergreen shrubs for the rock garden and peat garden. It is about 12 inches high with tough, leathery blue-gray leaves and umbels of nodding light pink urn shaped flowers in May and June. It is recommended for planting at the edge of pools yet it does very well in a dryer, soil. It requires a deep acid leafmold soil in sun or half shade. (pH 4-5) A native of our northern North American bogs. It does not need bog conditions for success.

Andromeda polifolia. This is my favorite of the dwarf Andromedas. Very long narrow, dark green leaves about 3 inches long suspended from brown branches 12 to 18 inches high. The charming flowers are larger than all the others and are quite showy in May and June. Color, HCC 625/2, Phlox Pink. It requires a deep acid leafmold or peaty soil in sun or light shade. (pH 4-5)

Andromeda polifolia montana. This is a very handsome mountain form of the above. The growth is more compact and the leaves are much smaller and set closer together, turning a rich bronze color in fall. The tiny elfin bells in May and June are truly fascinating. A fast and easy grower about 12 inches high. Same culture as above.

Andromeda polifolia nana. This one has a more spreading than upright growth. The branches are thin and wiry with very narrow leaves. The new growth is crimson and the entire plant has a pleasing bronze color in fall and winter. The charming pale pink bells are carried in a graceful fashion in May and June. Give it the same soil and exposure as *A. polifolia*.

ANDROSACE. Rock Jasmine. (Primulaceae, Primrose Family)

Androsace lanuginosa leichtlinii. A rare alpine with white woolly rosettes in fall and winter, from which grow long trailing stems of silvery foliage. It has white flowers with deep crimson eyes, in clusters on 3 inch stems. This interesting species from the Himalayas is often in bloom from June to frost. It requires a gritty, well drained alkaline soil in sun or half shade. (pH 7-8)

Androsace sarmentosa. This species from the Himalayas forms solid carpets of silvery rosettes about one inch in diameter. From the center of each rosette comes two or three 5 inch stems with umbels of dainty rose pink flowers in May. This is perhaps the easiest and fastest grower. It likes a gritty, well drained soil in sun or half shade. (pH 7-8)

Androsace sempervivoides. A Himalayan alpine that I like best of all. Very tiny and dainty bright green rosettes that form dense little colonies. Bright rose colored flowers on three inch stems in May. Same soil and exposure as *A. sarmentosa*.



Androsace sarmentosa

Androsace villosa. Little rosettes covered with long, white, silky hairs like fluffy snowflakes. Charming white flowers on one inch stems in May. The smallest and most difficult of all. It requires full sun and gritty lime soil. (pH 7-8)

ANEMONE. Wind Flower. (Ranunculaceae, Buttercup Family)

Anemone canadensis. (Meadow Anemone) Clumps of large, lobed leaves and tall flower stems about two feet high that carry large snow white flowers from May to August. Excellent for naturalizing in the wild garden and for a shady dry wall. A native of the eastern U.S. that is a rampant spreader and should be confined between rocks. It likes a rich soil in sun or half shade. (pH 5-7)

Anemone hupehensis. Undoubtedly one of the most beautiful plants for bright fall color in the rock garden. Nice maple-leaf foliage in deep green mounds about 10 inches high, with many sturdy flower stems about 18 inches tall bearing an abundance of lovely pink flowers from late August till hard frost. This indispensable plant wants a rich acid to neutral soil in sun or light shade. (pH 5-7) Very easy to grow and lasting for years.

Anemone nemorosa flore-pleno. (Wood Anemone) This dainty species from Siberia forms mats of very pretty scalloped leaves about 3 inches high, gayly ornamented with drifts of fully double pure white flowers on 5 inch stems in May. An excellent subject for the shady rock garden that likes a rich acid leafy soil in shade or half sun. (pH 5-6) A tuberous rooted species that goes dormant shortly after flowering.

Anemone nemorosa Royal Blue. A lovely form of the Wood Anemone with large, very brilliant royal blue flowers all through the month of May. Same soil and exposure as the preceding.

Anemone pulsatilla. (Pasque Flower) Broad clumps of attractive ferny foliage about 8 inches high with large, cup shaped, purple flowers in April and May. The lovely flowers are followed by decorative glistening seed plumes. This European is an old favorite with flower lovers and is easy to grow in any ordinary garden soil in sun or light shade. (pH 6-8)

Anemone ranunculoides. (Yellow Wood Anemone) Another mat forming species from Siberia that resembles *A. nemorosa* in leaf, but the showy little cups are of a true buttercup yellow and begin to bloom two weeks earlier in April. It likes shade or half shade in a rich acid leafmold soil. (pH 5-6)

ANEMONELLA. Rue Anemone. (Ranunculaceae, Buttercup Family)

Anemonella thalictroides. (Rue Anemone) A dainty, delicate little plant from our eastern woodlands with attractive rue-like foliage on very thin stems, with large white flowers that resemble the wood anemones. The entire charming plant is about 10 inches high and blooms in April and May and later if it is cut back after blooming. It thrives in an acid leafmold soil in shade or half shade. (pH 5-6)

ANTENNARIA. Pussy Toes. (Compositae, Daisy Family)

Antennaria microphylla. A very slow growing Rocky Mountain alpine that makes mats of tiny silvery, evergreen rosettes. Small white flowers on 6 inch stems in June and July. This is primarily a foliage plant, being attractive all through the year. It likes a sandy soil in full hot sun. (pH 6-8)

Antennaria neodioica. A fast growing ground cover for hot, dry places. Quickly spreading evergreen mats of glistening silver only one inch high. It has fuzzy rose pink flowers on 6 inch stems in June and July that are rather nice, but this also is primarily a foliage plant. Good for walks and for planting in dry walls. It likes a sandy soil in full hot sun. (pH 6-8)

ANTHEMIS. Chamomile. (Compositae, Daisy Family)

Anthemis biebersteiniana. This outstanding little plant from the Carpathian Mountains deserves a place of honor in every rock garden. A very attractive little mound of finely cut, glistening silver foliage about 4 inches high. It produces an abundance of stems about 8 inches tall, each bearing a large daisy of pure golden yellow in May and June. An easy subject in any good garden soil in full sun. (pH 6-8)

ANTIRRHINUM. Snapdragon. (Scrophulariaceae, Figwort Family)

Antirrhinum asarina. A sturdy, robust plant with trailing stems of woolly, heart shaped leaves and large pale yellow snapdragons from June to August. A perfectly hardy native of Spain that is very decorative trailing over rocks or down the side of a wall. It wants a loose, gritty soil in sun or half shade. (pH 6-8)

Antirrhinum molle. Another dwarf snapdragon with fuzzy leaves, but this one grows upright to about 10 inches with small round leaves and white flowers in loose spikes in June and July. A native of Southern France that wants a well drained garden soil in sun or half shade. (pH 6-8)

AQUILEGIA. Columbine. (Ranunculaceae, Buttercup Family)

Aquilegia akitensis. A dwarf Japanese columbine with very attractive blue-green leaves about 6 inches high and sturdy stems bearing very large blue flowers with inner petals pale yellow. A highly desirable, almost indispensable plant for the rock garden that is easy to grow in any ordinary garden soil in sun or part shade. (pH 6-8) Nice in dry walls.

Aquilegia canadensis. Our native eastern American columbine produces hundreds of bright red flowers with yellow inner petals on 2 foot stems from April to June. It is a bit too tall for the ordinary rock garden but is perfectly suited to the wild garden or wall garden. It is of very easy culture in any soil in sun or shade. (pH 5-8)

Aquilegia ecalcarata. A very rare plant for collectors of exotics. Very attractive little mounds of deep green leaves usually tinged with purple about 5 inches high. The 10 to 15 inch stems carry quantities of tiny dark purple flowers that are completely devoid of spurs, unlike any other columbine flower. It blooms in May and is easy to grow in any ordinary garden soil in sun or part shade. (pH 6-8)

Aquilegia flabellata nana alba. (Fan Columbine) The most widely known of the dwarf columbines. Neat mounds of large fan shaped leaves, blue-green in color about 6 inches high. Very large pure white flowers on 10 to 15 inch stems in May and June. A native of Japan that is probably the best for the rock garden. Easy to grow in any ordinary soil in sun or light shade. (pH 6-8)



Courtesy American Rock Garden Society

Aquilegia flabellata nana alba

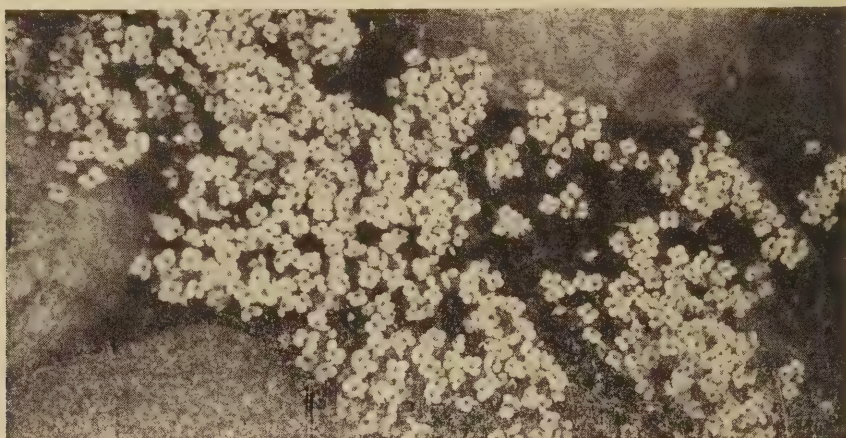
Aquilegia jonesii. A dainty little alpine from Montana that is almost impossible to grow away from its native habitat. Tiny tufts of rounded leaflets about one inch high with two inch stems each bearing one tiny blue flower in early spring. My observation is that it needs a very deep, gravelly root run with an acid peaty soil, in sun or part shade. It also likes to be thoroughly dry in July and August, when it goes partially dormant. (probably pH 5-6)

Aquilegia saximontana. Another dainty dwarf alpine, this one from Utah that is comparatively easy to grow. A little cluster of crinkly foliage about 2 inches high with 4 inch flower stems carrying little blue and yellow flowers in April. This one likes a very gritty lime soil in full sun or light shade. (pH 7-8)

ARABIS. Rock Cress. (Cruciferae, Mustard Family)

Arabis albidiflora. (Formerly listed as *Arabis alpina* fl. pl.) Four inch high mats of large, woolly gray leaves, covered with long sprays of large, fully double fragrant white flowers in April and May. An old favorite rock garden and wall garden plant from the Caucasus that is easy to grow in any ordinary garden soil if given good drainage. It takes full sun or part shade. (pH 6-8)

Arabis albidiflora rosea. A good clump forming variety with deep rose-pink flowers in April and May. It is a much slower grower than the one above with small leaves in compact mounds. A very prolific bloomer. Same soil and exposure as above. Because of the close foliage good drainage is absolutely essential.



Arabis albidiflora rosea

Arabis androsacea. A tiny alpine from South Eastern Europe that forms tight cushions of woolly white rosettes topped by little clusters of white flowers on 2 inch stems in May. As most alpines, this one likes a gritty, well drained lime soil in sun or part shade. (pH 7-8) It is at best if planted in a rock crevice.

Arabis blepharophylla. A noteworthy plant from the mountains of California that forms large rosettes of hairy green leaves close to the ground. It has upright stems 6 to 10 inches high with bright pink flowers in loose spikes in April and May. It is easy to grow in ordinary garden soil if given good drainage and full sun. (pH 6-8)

Arabis carduchorum. (Formerly listed as *Draba fladnizensis*) Another tufted species, this one from Armenia. It makes tight cushions of bright green rosettes with comparatively large white flowers in little clusters on four inch stems in April. An easy and very desirable plant. It likes any ordinary garden soil in full sun or light shade. (pH 6-8) Excellent for walls and rock crevices.

Arabis kellererii. A hybrid cushion type with tiny gray green rosettes about half an inch in diameter. Elfin white flowers on two inch stems in April. A miniature plant for rock crevices in small rock gardens and fine for the new sink gardens. It does best in half shade and a gritty, well drained lime soil. (pH 7-8)

Arabis procurrens. An evergreen creeping species that forms lovely mats of dark, glossy green leafy rosettes. It has showy white flowers in loose clusters on 8 to 10 inch stems in April and May. The flower resemble the candytufts. A very useful plant that is easy to grow in any soil and in either sun or shade. (pH 5-8) Very good for walls and terraces, especially in the shade.

Arabis sturii. Probably a dwarf, clustery form of the above. It forms dense, slowly spreading rounded clumps of dark, glossy evergreen leaves with a lovely display of pure white candytufts on 5 inch stems in April and May. Another excellent wall plant in any soil in sun or shade. (pH 5-8)

ARCTOSTAPHYLOS. Bear Berry. (Ericaceae, Heath Family)

Arctostaphylos uva-ursi. (Bear Berry) Dense mats of long trailing branches with small leathery green leaves that turn a pleasing copper color in fall. White bell shaped flowers in May, followed by bright red berries in summer and fall. The best of all evergreen ground covers for poor, dry, gravelly or sandy acid soil in full sun or light shade. (pH 4-5) Our plants are propagated by cuttings and grown in pots, the only way to transplant this worthy subject.



Courtesy American Rock Garden Society

Arenaria montana

ARENARIA. Sandwort. (Caryophyllaceae, Pink Family)

Arenaria laricifolia. A fine green mat of small pointed leaves on thin, creeping branches, covered with showy white cup shaped flowers on 2 inch stems in May and June. Exceptionally fine for planting between stepping stones in walks. An easy and quick grower in a sandy acid soil in full sun. (pH 5-6)

Arenaria montana. The best and showiest of all the Arenarias, with long trailing stems of glossy green leaves and large white flowers in May. This most desirable species from southern Europe is a real charmer when it drops from crevices in the rock garden or down the side of a wall. Easy to grow in full sun or light shade and a loose loam a bit on the acid side. (pH 6-7)

Arenaria verna caespitosa. A tiny moss-like species no more than ½ inch thick that grows into dense little mats and studded with tiny white stars in early spring. another good one for between stepping stones and for sink gardens. It must have a well drained soil in sun or light shade. (pH 5-7)

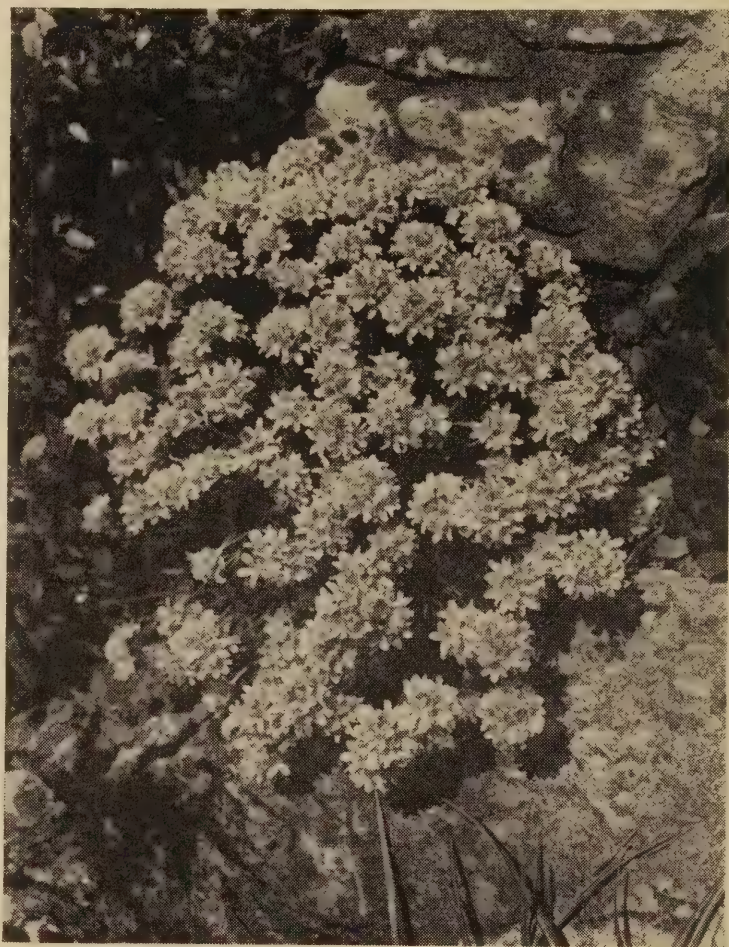


Photo by G. G. Nearing

Armeria juniperifolia

ARMERIA. Sea Thrift. (Plumbaginaceae, Plumbago Family)

***Armeria juniperifolia*.** (A *caespitosa*) Dense evergreen tufts of short pointed leaves in tight rosettes with dense heads of white flowers on 2 inch stems in May and again in September. This is the true form from the Guadarrama Mountains in Spain. This little gem requires a gritty, well drained, lime soil in full sun. (pH 7-8) To prevent the crown from decaying, mulch it with a good layer of stone chips.

***Armeria juniperifolia rosea*.** The same dense tufts of small pointed leaves, but this one is ornamented with delicate rose colored flowers. Be sure to give it the same treatment as above. Good drainage is absolutely essential.

***Armeria maritima lauchiana*.** This comparatively easy, very useful and showy species from Greenland and Iceland forms large evergreen clumps of dark green grass-like leaves. Each plant is a basket full of vivid carmine flowers on 8 inch stems in May and an ample sprinkling of flowers through the rest of the summer. Excellent for drifts in the rock garden and for clumps in walks and walls. Easy in ordinary garden soil and full sun. (pH 6-8)

***Armeria Six Hills*.** A charming little plant of hybrid origin that is intermediate to the two above extremes. Neat cushions of grassy foliage about 2 inches high and a profusion of clear light pink flowers in spring and fall. Easy to grow in any well drained garden soil. (pH 6-8)



Courtesy American Rock Garden Society

Armeria Six Hills**ARNEBIA. Prophet Flower. (Boraginaceae, Borage Family)**

Arnebia echioides. Low clumps of dark green leaves that produce long procumbent stems bearing fascinating large bright yellow funnellform flowers with large brown spots. The spots fade (to herald the coming of the Prophet Mohammed) with age, leaving a pure yellow blossom. It is easy to grow in a well drained garden soil in full sun. This gem from Armenia blooms in April and May and sometimes through the summer. (pH 6-8)

ARRHENATHERUM. Oat Grass. (Gramineae, Grass Family)

Arrhenatherum tuberosum variegatum. (A form of *A. elatius*) Grasses are usually considered weeds by rock gardeners, but this one is a welcomed addition to any good plant collection. A very attractive clump of long striped green and white leaves about 10 inches high. A pleasing contrast to the green and gray leaves and bright flowers of the other plants. Easy to grow in full sun or light shade in any ordinary soil. (pH 6-8)

GARDEN SOIL AND GRITTY LIME SOIL

The plants described as wanting ordinary garden soil will thrive in the same ground that produces good vegetables or good annual or perennial flowers. Our potting soil in which we grow most of our plants consists of the following: ten parts good top soil, one part sharp sand, one part stone chips, $\frac{1}{2}$ part dry cow manure, two parts leafmold or peat moss, $\frac{1}{4}$ part chipped oyster or clam shells or limestone chips. If your top soil is very acid add $\frac{1}{8}$ part pulverized limestone. If your soil is naturally alkaline leave out the chipped shells.

For the gritty lime soil mixture we use three parts top soil, one part leafmold or peat moss, one part sharp sand, one part stone chips, $\frac{1}{2}$ part limestone chips or shell chips and $\frac{1}{4}$ part dry cow manure. This should be thoroughly mixed before planting.

ARTEMISIA. Wormwood. (Compositae, Daisy Family)

Artemisia frigida Silver Dome. (Fringed Wormwood) A perfect rounded dome of sheer silver foam, from 8 to 10 inches high and about 15 inches in diameter. An irresistible plant that is loved and wanted by everyone that sees it. The flowers are small yellow discs that should be cut off before they spoil the symmetry of the plant. Some time the plants that are grown in shade or too rich a soil flop open in the center. If this happens they should be cut back severely in July. They will quickly fill out to a fluffy mound again. Easy to grow in full sun and any ordinary soil, but prefer a dry sandy soil. (pH 6-8)

Artemisia glacialis. (Formerly listed as *A. schmidtiana nana*) Dense two inch thick mats of tiny, silvery, woolly, ferny foliage. A lovely evergreen creeper for walks, walls and rock garden. The flowers are small, yellow and inconspicuous. This and the one above have very aromatic foliage. Ordinary garden soil or poor sandy soil in full sun. (pH 6-8)



Armeria maritima lauchiana

ASARUM. Ginger. (Aristolochiaceae, Birthwort Family)

Asarum europaeum. An evergreen ground cover of thick, leathery dark green leaves about 5 inches high. The odd brown or purple flowers lie flat on the ground, hidden by the foliage. An excellent ground cover for deep shade, especially in and around Rhododendrons. It thrives in a rich, deep acid or neutral leafmold soil in shade. (pH 5-7)

Asarum shuttleworthii. Attractive heart shaped leaves three to four inches high that are glossy green, mottled with white or gray and turn a beautiful bronze color with frost. The mottled purple and green flowers are hidden by the foliage. This native of Virginia requires a woodsy, acid leafmold soil in full shade. It does best in a moist position or where the soil never parches in summer. (pH 4-6) Another good ground cover under Rhododendrons or in a wild garden. This is very similar to *Asarum virginicum*.

ASPERULA. Woodruff. (Rubiaceae, Madder Family)

Asperula odorata. (Sweet Woodruff) A neat aromatic ground cover for planting under shrubs or other shady places. Narrow leaves in whorls of eight on thin spreading stems about 8 inches long which form a solid carpet of light green. Covered with small white stars in April and May. It likes shade in an acid leafmold soil. (pH 4-6)

ASPLENIUM. Spleenwort. (Polypodiaceae, Fern Family)

Asplenium platyneuron. (Ebony Spleenwort) Neat little circles of small sterile fronds about 5 inches in diameter, with tall, erect fertile fronds on black stipes about 12 inches high coming from the center. An easily grown fern for rock crevices or the shady side of the wall. Another eastern native that requires a light acid leaf-mold soil in shade or partial shade. (pH 4-6)

Asplenium trichomanes. (Maidenhair Spleenwort) A charming little rock fern from our Eastern limestone mountains that forms little tufts of long, narrow, black ribbed fronds about 3 inches high. To be successful it must be grown horizontally, in a shaded rock crevice with a bit of leafmold for food. (pH 7-8)

ASTER. Michaelmas Daisy. (Compositae, Daisy Family)

Aster alpinus. (Rock Aster) This good summer bloomer from the European Alps forms neat clumps of light green leaves about 4 inches high and in June and July it sends up 8 to 10 inch stems bearing large showy lavender-blue daisies. Very useful because of its profusion of color when most other flowers have faded. It does well in full sun and ordinary garden soil. (pH 6-8)



Aster Alpinus

Aster alpinus. albus. The same as above with lovely pure white flowers with yellow centers. Same soil and exposure as above.

Aster alpinus Goliath. A giant compared to the others but still a very desirable and neat grower for the rock garden. Larger leaves and tall stems from 15 to 18 inches high with huge lavender-blue flowers 3 inches in diameter. Same treatment as A. alpinus.

Aster dumosus Lilac Time. A very compact growing dwarf Aster that grows into solid mounds of small dark green leaves from 12 to 15 inches high and completely covered with little single, lilac-pink flowers in September and October. Literally thousands of flowers on each plant. Lovely for fall color in the rock garden or low border. Easy to grow in ordinary garden soil a bit on the acid side. (pH 5-7)

Aster dumosus Niobe. Similar to the above in habit of growth. Covered with pure white daisies with yellow centers in September and October. Same treatment as above. These dumosus Asters particularly like a moist, meadow location in full sun.

Aster dumosus Victor. Thousands of tiny lavender-blue daisies with yellow centers in September and October. The yellow centers turn to a deep purple with age. Same soil and exposure as above.

Aster linariifolius. (Stiff Aster) Very narrow, stiff leaves on thin wiry stems about 18 inches high. A profusion of small violet-blue daisies in September and October. Before it sets buds it should be cut back once or twice to make it bush out. A native of the New Jersey Pine Barrens that requires a very acid soil in sun or light shade. (pH 4-5)

Aster linariifolius albus. The very rare and lovely white form of the Stiff Aster. The buds are pink but the flowers open pure white. Sandy acid soil in sun or light shade. (pH 4-5)

Aster linariifolius purpureus. A new deep form of this lovely aster. This variety blooms late in October and November, with very deep purple daisies. Same treatment as above.

Aster linariifolius rosinus. A new and extremely delightful clear rose pink variety. A very long blooming period from the first of September to the end of October. Same soil and exposure as *A. linariifolius*.

Aster spectabilis. Another native of the New Jersey Pine Barrens. It forms quickly spreading mats of large leafy rosettes about 3 inches high and carries a profusion of large deep violet-blue daisies on 12 to 15 inch stems in August and September. It requires a sandy acid soil in sun or half shade. (pH 4-6) A truly useful plant for bright late summer color in the rock garden or wild garden.

ASTILBE. Spiraea. (Saxifragaceae, Rockfoil Family)

Astilbe chinensis pumila. A very dwarf Astilbe with a few ferny leaves almost flat on the ground and 8 inch spikes of colorful two-tone pink and mauve fuzzy flowers in July and August. This cheerful summer blooming plant comes from China and likes a rich garden loam that is neutral or slightly acid. (pH 6-7)

Astilbe crispa Gnome. A very interesting little dwarf of unknown origin. Low leafy rosettes of wavy, deep green leaves about 3 inches high that are stiff and crisp to the touch. Short spikes, about 4 or 5 inches high, of small fuzzy pink flowers in July. This fine gem wants a rich slightly acid garden loam in half shade. (pH 6-7)

Astilbe dryade. Clumps of attractive ferny green foliage about 8 inches high, superimposed with large feathery plumes of pure white flowers 12 to 15 inches high in June and July. A "small" variety that is very useful in the rock garden. It likes a rich garden loam in shade or half shade. (pH 6-7)

Astilbe Fanal. Lovely feathery, reddish-green foliage about 12 inches high and tall 18 to 24 inch stems bearing large plumes of bright red flowers in July. An easy subject in a rich garden loam in half shade or full sun if it does not get too dry. (pH 5-7) Especially useful for planting at the edge of pools and streams.

Astilbe rosea. The same delightful foliage as the foregoing, only in a light green color. the large fluffy plumes are a pale rose color on 24 inch stems in July. Same soil and exposure as *A. Fanal*.

Astilbe rosea Gloria Alba. A form of the one above that is much more robust. The ferny leaves reach a height of 15 inches and the pure white plumes are carried on 24 to 30 inch stems in July and August. This variety and the two following are a bit large for the ordinary rock garden but they are fine for planting in the wild garden or in front of tall shrubs and very large rocks. Same treatment as *A. Fanal*.

Astilbe rosea Peach Blossom. The same as *Gloria Alba* with bold plumes of a delightful peach blossom pink color in July and August.

Astilbe rosea Rhinland. This tall variety has bright cherry red flowers in July and August. Same soil and exposure as *A. Fanal*.

Astilbe simplicifolia salmonae. A dwarf species about 12 inches high with large deeply lobed leaves and arching spikes of pale salmon pink flowers in late June and July. An excellent kind for the shady rock garden in a rich neutral or acid loam. (pH 5-7)

ATHYRIUM. Japanese Spleenwort. (Polypodiaceae, Fern Family)

Athyrium goeringianum. A graceful Japanese fern that forms large 12 inch high clumps of long drooping fronds graduating from a dark emerald green to a lighter shade toward the edges. A quick and easy grower in an acid leafmold soil or a light rich loam in shade or half shade. (pH 5-7)

Athyrium goeringianu pictum. This is the utterly delightful painted form of the Japanese Spleenwort. The long graceful fronds are painted with pink, gray and pale green on a dark green background. It makes a striking effect in a shaded nook in the rock garden. Probably the easiest of the desirable rock loving ferns to get established. Acid soil and shade or half shade. (pH 5-7)

AUBRIETA. Purple Rockcress. (Cruciferae, Mustard Family)

Aubrieta deltoidea. A spreading carpet of small, gray-green leaves that is completely covered with myriads of showy flowers from April to June. The color of seedlings varies from mauve to deep purple. An excellent wall plant and quite outstanding when it tumbles over rocks in the rock garden. It thrives in sun or part shade in a well drained garden soil. (pH 6-8)

Aubrieta deltoidea Lavender. The same habit of growth as the foregoing and the same number of flowers, but they are a bit larger and colored a pleasing shade of lavender. A charming wall companion to the one above. Same soil and exposure.

Aubrieta deltoidea Whitewell Gem. A daintily colored clear pink variety of this useful plant. All these Aubrietas are long lived in a well drained soil.

BEGONIA. (Begoniaceae, Begonia Family)

Begonia evansiana. A hardy tuberous rooted species from China. Large waxy begonia leaves on erect stems from 12 to 24 inches high with large flesh pink flowers in July and August. The leaves are glossy green on top and red beneath. This noteworthy plant thrives in a moist acid leafmold or peaty soil in shade. (pH 5-6) After the stems freeze back the tubers should be left in the ground and covered over with a thick layer of leaves.

BELLIUM. Miniature Daisy. (Compositae, Daisy Family)

Bellium bellidioides. This pretty little gem forms small mats of tiny, glossy green leaves $\frac{1}{2}$ inch thick that are studded with tiny white daisies on one or two inch stems through most of the summer. A charming fairy for a sheltered spot in full sun and a well drained garden soil. (pH 6-8) A fast grower that needs frequent dividing and protection from drying winds in winter.

BERBERIS. Barberry. (Berberidaceae, Barberry Family)

Berberis triacanthophora. An evergreen Barberry that eventually reaches a height of four or five feet. It can be sheared to form a low compact bush for accent in the rock garden or left to grow naturally for back ground planting. It has long narrow evergreen leaves and showy pale yellow flowers in large clusters in June followed by black berries in fall. It succeeds in any garden soil in sun or light shade. (pH 5-8)

Berberis verruculosa. Another evergreen Barberry. This one is a dwarf, compact shrub from two to three feet high. The stiff, spinny, dark green leaves resemble tiny Holly leaves. The underside of the leaves are blue-gray and the showy flowers are a bright golden yellow. The new growth is crimson and the entire plant takes on a bronze hue in fall. Easy to grow in any ordinary garden soil in full sun or light shade. (pH 5-8)



Bergenia cordifolia

BERGENIA. Megasea. (Saxifragaceae, Rockfoil Family)

Bergenia cordifolia. (Megasea smidtii) A very attractive clump of semi-evergreen, glossy, large rounded leaves, each leaf about 6 inches in diameter. Flower stems are from 10 to 15 inches high, bearing huge clusters of lovely pink flowers in April and May. A handsome plant for a bold accent in a shady or half shady area. Give this hardy Siberian and acid loam with a liberal admixture of leafmold or peat. (pH 5-7)

BLECHNUM. Deer Fern. (Polypodiaceae, Fern Family)

Blechnum spicant. An interesting fern from the West Coast extending from Alaska to California. The sterile fronds are about 6 inches long and form a circle flat on the ground. The fertile fronds stand upright in the center of the circle about 18 inches high. Easy to establish in an acid leafmold soil in shade. (pH 4-6)

BRUCKENTHALIA. Spike Heath. (Ericaceae, Heath Family)

Bruckenthalia spiculifolia. This dainty little shrub from the Balkans is a rock garden must. It forms large spreading bushes with the upright growth about 5 inches high, clothed with very fine and dense evergreen leaves, resembling a dwarf spruce. In June and July it is alive with numerous short spikes of delicately colored bells. Color HCC 27/3, Light Magenta. A neat and easy grower if given the right soil. It requires a sandy acid leafmold or peaty soil in sun or light shade. (pH 4-6)

BRUNNERA. Giant Forget-Me-Not. (Boraginaceae, Borage Family)

Brunnera macrophylla. (*Anchusa myosotidiflora*) Broad, heart shaped leaves about 12 inches high, with airy sprays of brilliant blue flowers on 15 inch stems in April and May. A hardy, long lived plant from the Caucasus that thrives in shade or semi shade in a rich acid loam. (pH 5-7) Easy to grow and self sows quite freely.

BUXUS. Boxwood. (Buxaceae, Broxwood Family)

Buxus microphylla koreana. A perfectly hardy boxwood from Korea that does not sun burn and comes through the hardest winters without losing a leaf. This is the best for northern gardens. It grows into a dense rounded bush of small dark green leaves, never more than 15 inches high. A good plant for bold evergreen accent and can be sheared for low hedge or edgings. It thrives in any good garden soil and sun or partial shade. Part shade is preferred. (pH 6-8)

Buxus microphylla nana compacta. The smallest and most compact of the dwarf boxwoods for the rock garden. A very slow grower that produces a tight little tuft of tiny evergreen leaves about the size of a golf ball in three years. The original plant is said to be only 9 inches high and over 20 years old. It thrives in any good garden soil and partial shade or sun. (pH 6-8)

CALLIRHOE. Poppy-Mallow. (Malvaceae, Mallow Family)

Callirhoe involucrata. An extremely big and rather coarse plant, however it is useful in a large rock garden and in hot sunny wall gardens. Long trailing stems sometimes three feet long, bearing large deep purple-red cups 3 inches in diameter all through the summer. The trailing stems do not root down and become weedy. The plant can be trimmed to any desired size. It succeeds in any ordinary garden soil in full sun. A native of the Mid-Western Plains. (pH 6-8)

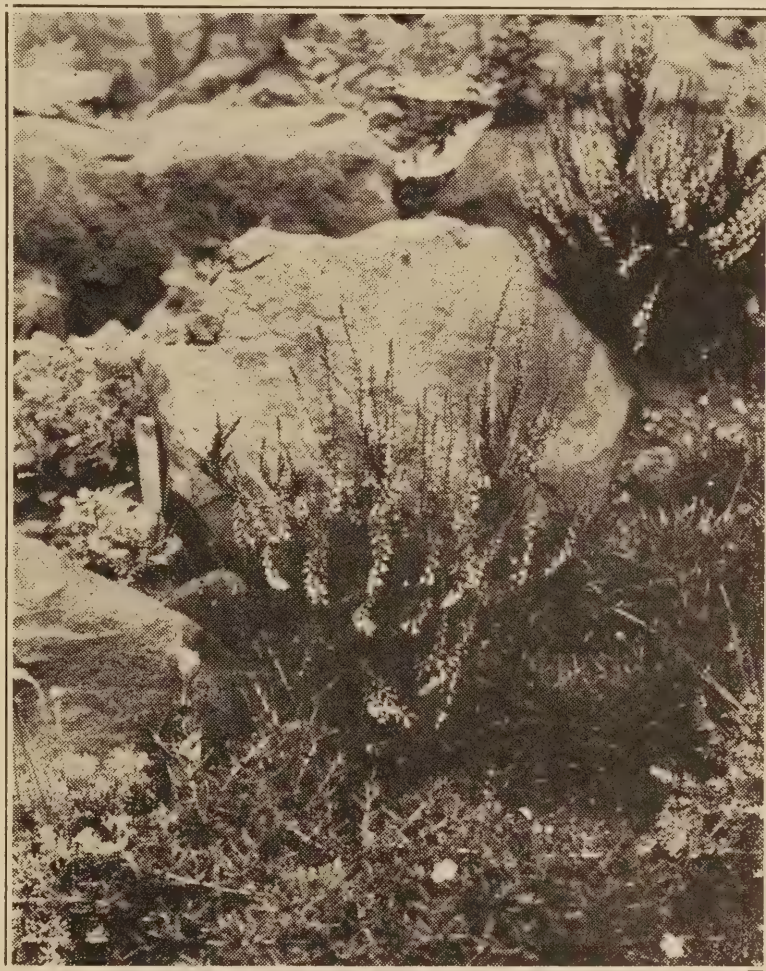
CALLUNA. Heather. (Ericaceae, Heath Family)

The heathers are dwarf shrubs of indispensable value for the rock garden, both for their neat and attractive evergreen foliage and for their colorful flowers that come in July, August and September, when color is most needed. All the varieties listed below are perfectly hardy and quite distinct either in habit of growth or in flower. No rock garden is complete without a quota of these lovely shrubs. All are varieties of one species, *Calluna Vulgaris*, native to Europe and Asia Minor and possibly Labrador.

All the varieties of Heather require a sandy or peaty acid leafmold soil in full sun or light shade for part of the day (pH 4-5) Many varieties will grow in shade but they will not flower. If your soil is naturally acid it is easy to grow the Heathers by adding acid leafmold, peat moss and sand in liberal quantities. Mix all the ingredients well before planting. If your soil is very alkaline it would be best to dig a trench about 12 to 15 inches deep and filling in with a mixture of half peat and half sand. Peatmoss and sand are obtainable everywhere, therefore you can grow heathers anywhere. Once they are established they will withstand any amount of drought.

Callun vulgaris Mayfair. This is not in its proper alphabetical order, but we list it first because it resembles the typical form more than any of the others. We call it Mayfair because it was raised here from seed. It is a vigorous grower and a profuse bloomer. It forms large spreading bushes with the sturdy upright growth about two feet high, topped with long erect spikes of little lavender flowers from July to late September. One of our specimen plants is about four feet in diameter and the small scale-like leaves are completely hidden by the thousands of flowers.

Calluna vulgaris alba. Just about the same habit of growth as the foregoing, except that it is shorter, the leaves are light green and the flowers are pure white. In bloom from July to September.



Calluna vulgaris Mayfair

Calluna vulgaris County Wicklow. The ascending branches form a compact mound of dark green little leaves about 6 inches high. Arching sprays of fully double bright pink flowers are produced from July to October. One of the best of the fancy varieties.

Calluna vulgaris cuprea. A tall, vigorous upright variety with light golden-green foliage that turns a pleasing copper in fall and winter. It has large spikes of lavender flowers from July to October.

Calluna vulgaris foxii nana. The smallest of all the Heathers. It grows into tight, compact little cushions of dark green twigs about 4 inches high, topped with one or two inch spikes of purple bells from July to October. This particular variety, because of its very close growth, needs a well drained sunny location.

Calluna vulgaris J. H. Hamilton. A neat and compact low grower from 6 to 12 inches high, with arching sprays of fully double, vivid bright pink flowers from July to the end of October. Similar to County Wicklow except it is a little bigger and the flowers are a brighter pink.

Calluna vulgaris kuphaldti. A distinctive type, forming thick green carpets of thin twisted branches about 3 inches high. It has horizontal spikes of lavender flowers from July to September. Good for a limited ground cover.

Calluna vulgaris minima. Very fine foliage on crowded little spires about 6 inches high, with bright purple flowers in August and September. Attractive bronzy little tufts that look like fine moss. Another dainty for the connoisseur.

Calluna vulgaris Mrs. H. E. Beale. One of our favorites and undoubtedly one of the best in any list. A vigorous upright grower with long arching sprays of comparatively large fully double, pale rose colored flowers from July to late October. The flowering stems are sometimes 30 inches high, making this a fine variety for cutting.

Calluna vulgaris Mrs. R. H. Gray. This interesting variety forms a thick carpet of deep emerald matted growth, with long spikes of lavender flowers flat on the ground from July to September. Never more than 3 inches high, but it spreads horizontally to make a limited ground cover.

Calluna vulgaris nana compacta. The gem of the race! The daintiest of all the Heathers. It forms tight, rounded tufts of fine moss-like growth, topped with short spikes of lavender-pink flowers in August and September. The whole fairy-like plant is only four to eight inches high and spreads very slowly.

Calluna vulgaris plena. A vigorous upright grower with dark green foliage and fully double deep purple flowers on 18 inch spikes in July and August. An outstanding variety.



Calluna vulgaris nana compacta

Calluna vulgaris rigida. Another indispensable jewel for the well stocked rock garden. A six to 10 inch high mound of stiff, compact, gnarled, horizontal branches colored a striking shade of fresh green. Short spikes of small white flowers in August and September. The only one of the Heathers that does not turn bronze with frost. It keeps its fresh green color all winter.

Calluna vulgaris rosea. A vigorous grower that forms a symmetrical bush from 12 to 18 inches high with horizontally spreading branches and showy arching sprays of rosy-lavender flowers from July to September. One of the best and most consistent flowering varieties.

Calluna vulgaris Tib. Another one of our favorites that deserves a place in every garden. A 12 to 18 inch high mound of thin, dark green, arching twigs with long sprays of bright red-purple, small double flowers from July to December.

Calluna vulgaris tomentosa. An attractive and outstanding shrub from 12 to 24 inches high, with woolly gray-green foliage and tall erect spikes of vivid bright purple flowers in July and August.

CALOPOGON Grass Pink. (Orchidaceae, Orchid Family)

Calopogon pulchellus. A delicate looking, but quite hardy and showy New Jersey native orchid that is easy to grow in the rock garden or bog garden. It has one or two long thin leaves and a tall slender flower stem about 10 inches high, bearing as many as eleven pretty orchids about $1\frac{1}{2}$ inches across. The color is a nice shade of orchid-pink and it has a long blooming season, from June to August. Its native habitat is a wet bog, therefore it is most easily grown in a bog garden, but it will succeed in a dryer rock garden if the soil is made up of acid peat moss and sand and is kept wet all summer. This is a tuberous species that should be planted in fall like other bulbs. (pH 4-5)

CAMPANULA Bellflower. (Campanulaceae, Bellflower Family)

Campanula barbata. Low clusters of long narrow leaves about 4 inches high with erect flower stems 8 to 12 inches high, bearing large violet-blue flowers all summer. The inside of the flowers are hairy or bearded. It thrives in any garden soil in sun or light shade. Quite often this desirable plant is confused with the weedy *C. rapunculoides*.

Campanula carpatica. (Tussock Bellflower) An old favorite in the Rock Garden that forms huge tussocks of large light green leaves and large upturned violet-blue cups on 8 to 12 inch stems from June to October. Valuable for its late blooming season. It thrives in ordinary garden soil in sun or light shade. (pH 6-8)



Courtesy American Rock Garden Society

Campanula carpatica alba

Campanula carpatica alba. The same ornamental leafy clump, but the large upturned flowers are pure white. Both do nicely in the shady side of a wall. Same soil as above.

Campanula cochlearifolia. A perfect little gem for the rock garden. A slow creeper with tiny shell shaped leaves about one inch high and short 3 inch stems smothered with dainty pale blue flowers from May to June and some through the summer. A real dainty from the mountains of Europe that wants a gritty lime soil with a liberal amount of leafmold in partial shade. (pH 7-8) It should be planted next to a rock.

Campanula cochlearifolia alba. The rare pure white flowered form of the above dainty species with the same fine mat of tiny leaves, also requiring the same soil and exposure. All the campanulas, especially these tiny ones, love to have their roots run along the side of cooling rocks. They will withstand full sun but prefer light shade.

Campanula elatines garganica. A most favored rock plant for years. It forms dense little clumps of small, sharply toothed leaves about 3 inches high and long ascending stems bearing an abundance of wide open stars in June and July. Color HCC 37/2, Campanula Violet. A species from Gargano, Italy that thrives in a gritty lime soil with a good amount of organic matter and a lightly shaded location. (pH 7-8) Excellent for rock crevices and the shady side of a wall.



Campanula elatines garganica

Campanula portenschlagiana. (*C. muralis*) A perfect little gem from Dalmatia that forms dense little tufts of crinkly leaves about 2 inches high and trailing flowering stems covered with multitudes of tiny bells in June and July. Color HCC 35/1, Amethyst Violet. An easy and permanent plant if it is given a gritty lime soil with a liberal amount of leafmold in a lightly shaded spot. Fine for the shaded side of a wall and for rock crevices. (pH 6-8)

Campanula poscharskyana. Another good rock garden subject from Dalmatia that resembles *C. garganica* on a large scale. It forms large spreading clumps of ornamental leaves about 5 inches high with long stems bearing hundreds of large wide open light violet stars in June and July. Very easy to grow in ordinary garden soil and sun or light shade. (pH 6-8) One of the best wall plants.



Courtesy American Rock Garden Society

Campanula portenschlagiana

Campanula poscharskyana Elizabeth Hollister Frost. A beautiful seedling of the preceding found in Miss Frost's rock garden at Tarrytown, N. Y. A typical *C. poscharskyana* with long trailing flower stems covered with large star shaped flowers that open a beautiful silvery color and turn pure white. A profuse bloomer from June to August that thrives with the same treatment as the one above. If it is grown in full sun the flowers takes on a delicate tint of pink.

Campanula raddeana. An extremely ornamental cluster of small, rigid, serrated leaves about 4 inches high and upright 8 inch flower stems from which hang numerous glistening deep purple bells in June and July. One of the prettiest of the bellflowers. It thrives in a cool, gritty lime soil in partial shade. (pH 7-8)

Campanula rotundifolia. (Harebell) (Scotch Blue Bell) A dense mat of small round leaves about 3 inches high from which spring many swaying stems about 15 inches high with quantities of small deep blue bells in June and July. One of the few bellflowers with true blue flowers. Color HCC 40/2, Hyacinth Blue. An easily grown species widespread in Europe, Asia and America. It thrives in any ordinary garden soil in sun or light shade. (pH 6-8). An exceptionally fine wall plant.

CAMPTOSORUS. Walking Fern. (Polypodiaceae, Fern Family)

Camptosorus rhizophyllus. An interesting little lime loving rock fern that sometimes forms solid mats on the face of moss covered limestone rocks in our Eastern mountains. It has very long and narrow undivided fronds that root at the tips, making new little plants. It must be planted in shallow rock crevices containing limy leaf-mold in full shade. (pH 7-8)

CARLINA. Alpine Thistle. (Compositae, Daisy Family)

Carlina acaulis. A rare thistle like plant from the Swiss Alps that forms a low cluster of prickly, gray green leaves with a huge, stemless white flower from 4 to 6 inches in diameter. It is more of a curiosity and a collector's item than it is a thing of beauty. It requires a gravelly lime soil in full sun. (pH 7-8)



Cassiope lycopodioides.

CASSIOPE. (Ericaceae, Heath Family)

Cassiope lycopodioides. A very interesting novelty from Siberia that forms a compact dome of arching, scaly stems like a dwarf weeping heather. The elfish, pure white bells dangling on thin red stems in June bewitch all who see it. The plant in the above picture was only 2 inches high and three inches in diameter. This desirable little elf requires a moist, peaty, acid leafmold soil in shade. It will not withstand prolonged sunshine or draught. (pH 4-5)

CERASTIUM. Mouse Ear. (Caryophyllaceae, Pink Family)

Cerastium alpinum lanatum. A tiny alpine from the Arctic Circle that grows into dense tufts of white woolly rosettes about one inch high, topped with comparatively large and showy white flowers in April and May. It likes a very gritty or sandy lime soil in full sun. It must have a well drained situation, thus it is suited for planting in tight rock crevices. (pH 7-8)

Cerastium arvense compactum. A choice, compact grower that forms neat mounds of soft, pale green leaves about 3 inches high and covered with lovely star shaped white flowers from May to July. Not at all weedy and easy to grow in any garden soil in sun or light shade. (pH 5-8)

Cerastium tomentosum. (Snow in Summer) A well know species that is familiar to most gardeners. It is quite weedy and will take over the entire garden unless it is confined. It is a good plant for a hot, dry wall where it will not spread too rapidly. Sometimes it tends to brown out in the middle. If that happens, cut it back close to the ground and it will fill out to a soft carpet of gray leaves and white flowers. Ordinary soil in full sun. (pH 6-8)

CERATOSTIGMA. Leadwort. (Plumbaginaceae)

Ceratostigma plumbaginoides. (*Plumbago larpentiae*) This plant from China can become a weed if it is not confined. It creeps by underground runners and forms great masses of green leaves on wiry stems 12 inches high, topped with clusters of vivid deep blue flowers from August to November. It grows in any ordinary soil in sun or light shade. (pH 6-8)

CHIOGENES. Snowberry. (Ericaceae, Heath Family)

Chiogenes hispidula. An attractive evergreen mat of small leathery leaves on long trailing stems, studded with small white flowers in May followed with snow white berries in fall. A northern American native that is difficult to grow for the best of gardeners. It requires a moist acid-leafmold soil in shade. (pH 4-5) It loves to grow over old rotted logs in a woodsy atmosphere.

CHRYSANTHEMUM. (Compositae, Daisy Family)

Chrysanthemum mawii. An interesting plant from the Atlas Mountains of Africa. Low mounds of dark green leaves shaped like tiny antlers, semi-evergreen. The tall stems from 12 to 15 inches high carry dark red daisies with black centers in June and July. Easy to grow in any ordinary garden soil that is well drained and in full sun. (pH 6-8) A plant that is interesting, showy and very rare.

Chrysanthemum morifolium gracile. A very hardy and lovely Mum of exceptional merit. It has thick, leathery, glossy green leaves in compact mounds that are attractive all summer long. Charming 3 inch wide cream colored daisies are produced in October on 18 inch stems that never flop over. Excellent as a border plant and not too large for the average rock garden. Easy to grow in ordinary garden soil and full sun. (pH 6-8) Early frosts do not injure the flowers.

Chrysanthemum morifolium Mrs. Mary Kolaga. An exceptionally fine seeding of the above raised by my mother in her garden at Fair Lawn, New Jersey. It has the same sturdy habit and the same attractive leathery leaves as the above, but the flowers in October are an exceptionally clear bright pink. Ordinary garden soil and full sun. (pH 6-8)

CHRYSOGONUM. Gold Star. (Compositae, Daisy Family)

Chrysogonum virginianum. One of the prettiest and most useful of our native wild flowers for a shady or partly shady rock garden. Low, slowly sprading clumps or mats of dark green leaves and short stems, 4 to 6 inches high, bearing multitudes of bright yellow stars from April to October. One of the few plants that will bloom all summer in the shade. It is easy to grow in a garden loam or in an acid leafmold soil in shade or sun, although shade is preferred. (pH 5-7)

CHRYSOPSIS. Golden Aster. (Compositae, Daisy Family)

Chrysopsis falcata. Loose clumps of long, narrow woolly leaves about 10 inches high, topped with clusters of small bright yellow asters in August and September. A native of the New Jersey Pine Barrens that requires an acid sandy soil in full sun. (pH 4-6) It will not live in a heavy garden soil.

Chrysopsis mariana. Hairy gray-green leaves in flat evergreen mats or scattered tufts that produce immense bunches of bright golden yellow asters on 2 foot stems from July to September. Bright and showy when color is most needed in the rock garden. Another native of the Pine Barrens, but this one is easy to grow in any ordinary garden soil that is neutral or acid. (pH 4-7) Give it full sun or light shade.

COPROSMA. (Rubiaceae, Madder Family)

Coprosma petriei. Dwarfest of all evergreen shrubs. It forms interesting, slowly spreading mats of tiny twigs and twisted branches flat on the ground and sometimes subterranean. The tiny evergreen leaves are usually less than $\frac{1}{4}$ inch long. In fall it has huge black berries $\frac{1}{2}$ inch thick, sitting right on top of the dense little cushion. It is difficult to propagate because of its minute growth and usually a three year old plant can be entirely covered with a half dollar. A very slow grower that is permanent if it is given a well drained, gritty lime soil in sun or light shade in a sheltered position. (pH 7-8)

COPTIS. Goldthread. (Ranunculaceae, Buttercup Family)

Coptis groenlandica. An evergreen mat of coarsely toothed, three lobed leaves only one or two inches high and stiff flower stems about 4 inches high, each one carrying a waxy white flower in April or May. A usefull ground cover in dense shade, especially under pines or hemlocks. It requires an acid leafmold soil in shade. (pH 4-5)

Coptis quinquefolia. The prettiest of the genus with dark green, finely cut five lobed leaves and charming waxy white flowers on 3 inch stems in April. A little Japanese species that makes a lovely evergreen mat in shade and a fluffy acid leafmold soil. (pH 4-5)

COREMA. Broom Crowberry. (Empetraceae, Crowberry Family)

Corema conradii. A New Jersey Pine Barren native evergreen shrub with small fuzzy brown flowers from March to May. Useful for colonizing in very sandy acid soil in sun or partial shade. (pH 4-5) It looks like a heath without flowers. Usually about 8 inches high and spreads as much as 3 feet in diameter.

CORNUS. Dogwood. (Cornaceae, Dogwood Family)

Cornus canadensis. (Bunchberry) A dwarf creeping Dogwood about 6 inches high, with whorled leaves on red stems and large white flowers just like the Dogwood tree. It has bunches of bright red berries in fall. An evergreen ground cover for shade in an acid leafmold soil. (pH 4-6) It usually takes two to three years to become established.

Cornus stolonifera nana. (Red-Osier) A very dwarf form of the well known Red-Osier. A red twig shrub about 18 inches high that grows into a dense rounded ball. It does not creep like its parent. Ordinary garden soil, slightly acid in full sun. (pH 5-7)

CORYDALIS. Fumitory. (Fumariaceae, Fumitory Family)

Corydalis cheilanthifolia. A large clump of finely cut, ferny foliage about 8 inches high and short stems with a few small yellow flowers. A plant from China recommended for its strikingly ornamental foliage. Easily grown in ordinary garden soil in sun or shade. (pH 6-8)

Corydalis lutea. A very attractive clump of delicate, glaucous, lacy foliage from 6 to 8 inches high and loose sprays of showy yellow flowers from May to November. A real beauty for shaded walls and rock crevices. This species from southern Europe must be grown next to a rock in any ordinary garden soil in shade or ½ shade. It will stand full sun if the soil does not parch. It will not grow in open soil. (pH 6-8)

CORYPHANTHA. (Cactaceae, Cactus Family)

Coryphantha vivipara. A tiny, prickly ball cactus that slowly develops into little mounds of spiny cylinders about 3 inches high. It has purple flowers in June and bright red berries in fall. It requires a very well drained sandy soil in full sun. (pH 6-8)

COTONEASTER. Rockspray. (Rosaceae, Rose Family)

Cotoneaster congesta. (C. glacialis) A dwarf, slow growing evergreen shrub about 12 inches high with sturdy, stiff branches and small round leathery leaves. Pale pink or white flowers in May followed by large showy red berries in summer and fall. A species from the Himalayas that is easy to grow in a well drained garden soil in full sun. (pH 6-8) One of the best of the dwarf shrubs for the rock garden.

Cotoneaster horizontalis Little Gem. Everyone knows the big sprawling C. horizontalis, but this Little Gem is really an outstanding variety for the rock garden. It grows into a low mound of horizontally spreading, twisting twigs clothed with tiny leaves that turn a bright red in fall. An extremely slow growing form. Our 12 year old stock plants are only 6 inches high and about 12 inches in diameter. It succeeds in any well drained garden soil in sun or light shade. (pH 6-8)

Cotoneaster microphylla thymifolia. Another dwarf, Himalayan species with small, dark green thyme-like leaves on thin branches in a compact bush from 12 to 15 inches high. It has white flowers in May and bright red berries in fall. This adorable little shrub likes a well drained garden soil in full sun. (pH 6-8)

Contoneaster pannosa nana. An interesting species from China that forms a compact, spreading mound from 6 to 10 inches high with short, stiff, horizontally spreading branches and tiny woolly gray-green leaves. As the others, this one has white flowers and red fruit. It likes a well drained garden soil and full sun. (pH 6-8) It needs winter protection in the north.

CRYPTOGRAMMA. Rock-Brake. (Polypodiaceae, Fern Family)

Cryptogramma crispa acrostichoides. (Parsley Fern) This dainty rock loving fern from the Great Lakes and Rocky Mountains looks like a little clump of fresh, crisp parsley. Glossy green three-pinnate fronds on straw colored stipes about 5 inches high. It requires an acid leafmold soil in shady moist rock crevices. (pH 4-6) It will not grow upright in open soil.

CUTHBERTIA. (Commelinaceae, Dayflower Family)

Cuthbertia graminea. One of the prettiest plants for the sunny rock garden I have ever seen. It consists of a little tuft of filiform leaves 4 to 6 inches high surmounted with bewitching bright pink flowers about one inch across on gracefully arching stems from June to September. It resembles a miniature Tradescantia without the coarse untidiness and invasive characters of the Spiderworts. It requires a very sandy acid soil in sun or light shade. (pH 4-6) We grow it in $\frac{3}{4}$ sharp sand and $\frac{1}{4}$ acid leafmold.

Cuthbertia rosea. Very similar to *C. graminea* but much larger in all its parts, and lacks the refined daintiness. Tufts of flat leaf blades from 8 to 12 inches high with rose colored flowers in summer. It requires the same soil and exposure as above.

CYMBALARIA. Linaria. (Scrophulariaceae, Figwort Family)

Cymbalaria aequitriloba. One of the most minute rock plants, forming a solid tiny ground cover of small rounded leaves studded with dainty lavender flowers all summer. This species from southern Europe thrives in a slightly acid soil rich in humus, in a shaded spot. Fine for shady walls, walks and rock crevices. (pH 6-7) It needs a little protection, especially from wind in the north.



Cymbalaria aequitriloba

Cymbalaria hepaticaeifolia. A charming limited ground cover with larger, light green leaves shaped like those of the Hepaticas. Lovely pale blue flowers throughout the summer. It loves a rich, moist loam in shade. (pH 6-8) A native of Corsica that needs protection in the north.

Cymbalaria pilosa. A neat and attractive creeper with soft woolly, gray-green three lobed leaves, sprinkled with many charming lavender flowers from May to November. A species from Italy that is perfectly hardy and easy to grow in any ordinary garden soil in sun or light shade. (pH 6-8) A natural wall plant.

CYSTOPTERIS. Bladder Fern. (Polypodiaceae, Fern Family)

Cystopteris bulbifera. (Berry Fern) A charming little fern that makes itself at home in a shady rock garden. Long, narrow lacy fronds from 8 to 12 inches high in compact little clumps. Tiny bulblets at the base of the fronds produce new little plants when they fall to the ground. It likes a moist leafmold soil in shade. (pH 6-8)

Cystopteris fragilis. (Brittle Fern) Intricately dissected gray-green fronds about 6 inches high in loose spreading clumps. An easily grown fern in a moist acid leafmold soil in shade. It creeps slowly by underground rhizomes. Excellent for the shady side of a wall. (pH 5-6)

CYTISUS. Broom. (Leguminosae, Pea Family)

Cytisus decumbens. A perfect plant for the rock garden. It forms intricate mats of long, slender completely prostrate branches sparsely clothed with tiny leaves and smothered with showy bright yellow flowers in May and June. This wonderful plant comes from southern Europe and loves a sandy, gritty lime soil in a hot sunny spot. (pH 7-8) Fine for walls and sunny rock crevices.

Cytisus henryae. A tall shrub with the true broom character. Very long and slender upright branches to 3 feet long. The tiny leaves fall off early in spring, leaving the bright green branches to display the light purple pea flowers in May. A tall plant that can be trimmed to any height or left to grow for back ground planting. It likes a poor sandy soil in full sun. (pH 5-8)

Cytisus kewensis. One of the best and rarest of the brooms. It is a decumbent shrub of bare bright green branches 6 to 10 inches long with lovely large cream colored pea flowers in May. A fine subject for trailing over large hot rocks. Sandy, well drained soil in full sun. (pH 5-8)

Cytisus praecox. A tall broom, 3 to 4 feet high, with the long slender leafless green branches. Bright yellow flowers in May all along the branches. A good color companion to *C. henryae*. It needs the same soil and exposure as *C. henryae*.

Cytisus praecox luteus. The same as above with pale yellow flowers. These tall varieties can be trimmed to stay about 18 inches high. Trimming should be done before the 10th of July or they will not have any flowers the next year.

Cytisus purpureus. Pea flowers in bunches like big purple butterflies. A decumbent shrub about 15 inches high with arching branches of loose ferny foliage and those stunning flowers in May. Easy to grow in a well drained garden soil in full sun. (pH 6-8) A permanent wall plant.

DABOECIA. Irish Heather. (Ericaceae, Heath Family)

Daboecia cantabrica. A charming low growing evergreen shrub from western Europe with shiny dark green leaves on erect branches 8 inches high, topped with long spikes of large purple bells from June to November. Color HCC 730/1, Dianthus Purple. A nice ericaceous plant to offset the tiny leaves of the Callunas and Ericas. Acid leafmold soil in sun or light shade. (pH 4-6) Needs protection from drying winds in the north.

Daboecia cantabrica alba. The same lovely evergreen shrub as above, but with bold spikes of large pure white bells all through the summer. Same soil and exposure.

DAPHNE. Garland Flower. (Thymelaeaceae, Mezereum Family)

Daphne cneorum. A little evergreen shrub from Europe invaluable in all rock gardens. Small dense leaves on decumbent branches that form a rounded dome about 12 inches high and as much as 3 feet in diameter. Captivating clusters of pink fragrant flowers at the ends of the branches in spring and again in fall. Color, HCC 24/2, Tyrian Rose. Well established plants should be sheared every year to be kept neat and compact. Trimming should be done not later than July 10th. It likes a light, peaty and sandy acid soil in sun or light shade. (pH 5-6)

Daphne cneorum alba. A very rare form of the above with short, prostrate branches about 4 inches high and clusters of fragrant pure white flowers in April and May. Same soil and exposure as above.

Daphne cneorum variegatum. The same extremely fragrant flowers and habit of growth as *D. cneorum*. Each of the tiny leaves is edged with white. Same treatment as above. The foliage variegation is not obvious from a distance.



Courtesy American Rock Garden Society

Dianthus alpinus

DIANTHUS. Pink. (Caryophyllaceae, Pink Family)

Dianthus alpinus. A lovely little alpine Pink with dark green, glossy leaves and large carmine, spotted crimson flowers on 3 inch stems in May. A very difficult species to grow. It likes moraine culture, or a very gritty, well drained lime soil in semi-shade. The soil should contain humus or peatmoss. Generally it is a short lived plant that must be replaced every 3 or 4 years. (pH 7-8)

Dianthus arenarius. A desirable species from Finland that forms large solid mats of short, stiff blue-green leaves about 3 inches high and producing many finely fringed, fragrant white flowers on 6 inch stems in May and June. Easy to grow in a sandy or gritty soil in full sun. (pH 6-8)

Dianthus ariel. Little cushions of deep blue-green leaves about an inch high that slowly develop into little mats producing 3 inch stems bearing large bright red flowers in May and June. A new hybrid that is virtually an easily grown *D. alpinus*. It likes a gritty, well drained garden soil in full sun. (pH 6-8)

Dianthus brevicaulis. Dainty little cushions of tiny gray leaves about one inch high with two to three inch flower stems carrying small pink flowers in May. The stiff little stems with the bright colored flowers look like beaded pins in a pin cushion. Easy to grow in a well drained garden soil in full sun. (pH 6-8) Excellent for walls and rock crevices.

Dianthus deltoides. The well known and somewhat weedy Maiden Pink. It forms broad mats of dark green evergreen leaves about 3 inches high. The tall upright stems from 12 to 15 inches high display masses of bright pink flowers in May and June. Self-sown seedlings usually spring up everywhere. Easy to grow in any garden soil in sun or half shade. (pH 5-8) Very good for dry walls.

Dianthus Double Pink. A nice plant of unknown garden origin. Attractive mats of blue-gray leaves about 3 inches high with 6 inch stems bearing double or semi-double pink flowers in May and June. Ordinary garden soil in full sun. (pH 6-8) Good wall plant.

Dianthus Double White. Very attractive and neat clumps of gray foliage about 3 inches high and each of the 6 inch flower stems produce perfectly formed pure white, fully double fragrant carnations from May to August. One of the best of the large double varieties for the rock garden. Easy in a well drained garden soil in full sun. (pH 6-8)

Dianthus glaucus compactus. Apparently misnamed, but it certainly describes the plant. A tight, low cushion of tiny stiff blue leaves about one inch high. Tiny but showy bright pink flowers on 3 inch stems in May and June. A sparse bloomer unless it is kept very dry in a sandy soil. A good wall or walk plant. It likes a gritty or sandy well drained lime soil in full sun. (pH 7-8)

Dianthus gratianopolitanus. (*D. caesius*) (Cheddar Pink) A choice old favorite rock garden species from England. It forms thick mats of silvery foliage 3 to 4 inches high that produces a quantity of 8 to 12 inch stems with large fragrant pink flowers in May, June and July. Easy and permanent in a well drained garden soil in sun or light shade. (pH 6-8) One of the best wall plants.



Dianthus gratianopolitanus

***Dianthus gratianopolitanus albus*.** A form of the Cheddar pink with shorter, more compact silvery foliage and 8 inch stems bearing pure white flowers in summer. Same treatment as above. Our plants of this variety are propagated by cuttings.

***Dianthus gratianopolitanus arvensis*.** A name I inherited for a good form with very thin leaves and 8 to 10 inch flower stems holding numerous light pink fragrant flowers that are attractively fringed. A lovely wall plant.

***Dianthus Little Bob*.** (Formerly listed as *D. Bobby*) A dwarf, showy everblooming garden hybrid that grows into compact clumps of blue gray leaves about 4 inches high and erect flower stems 8 to 10 inches high, producing large deep pink flowers, each with a crimson eye. Usually in bloom from May to September. Give it a well drained garden soil in full sun. (pH 6-8)

***Dianthus Little Joe*.** A coveted everblooming garden hybrid that forms attractive clumps of blue foliage about 3 inches high, topped with vivid deep crimson flowers from May to October. From my observation this is either a week strain or it is naturally short lived. It usually must be renewed in 3 or 4 years. It likes a well drained garden soil in full sun. (pH 6-8)

***Dianthus myrtinervius*.** Best described as a tiny *D. deltoides*. Little evergreen mats of tiny leaves only $\frac{1}{2}$ inch thick with ascending or trailing flower stems 3 or 4 inches long, bearing airy sprays of tiny deep pink flowers in May, June and July. Easy and permanent in ordinary garden soil in sun or light shade. (pH 6-8)

***Dianthus myrtinervius Pastel*.** A lovely form of the above with quickly spreading mats of soft green leaves and quantities of delicate pastel pink flowers from May to August. Easy to grow in ordinary soil and sun or half shade. (pH 6-8) Lovely in walks and shaded walls.

***Dianthus neglectus*.** A charming little species from southern Europe that was created especially for rock gardeners. Tiny tufts of little spiny leaves about one inch high with two or three inch high stems each with one or two comparatively large pink flowers in May or June. This gem never gets larger thus well suited to sink gardens or a conspicuous rock crevice. It wants a gritty lime soil in full sun. (pH 7-8) Good drainage is essential.

***Dianthus neglectus Henriette*.** The tiniest and most beautiful Pink in the world. It is composed of a tiny tuft of pointed leaves from $\frac{1}{8}$ to $\frac{1}{4}$ inch long in tight clusters. It produces unbelievably large pink flowers on one inch stems in May. Our parent plant now 10 years old is only $1\frac{1}{2}$ inches in diameter and produces as many as 18 flowers, each an inch across. It is so tiny that it is likely to get lost if not watched constantly. It requires a well drained gritty lime soil in full sun. (pH 7-8)

***Dianthus noeanus*.** (*Acanthophyllum spinosum*) A neat, dense cushion of green, narrow, spiny foliage about 3 inches high. The cushion is very prickly to the touch. Thin wiry stems about 10 inches high with fragrant, deeply lacinated white flowers in May and June. A native of southern Europe that is easy to grow in a well drained garden soil in full sun. (pH 6-8) It loves walls and rock crevices.

***Dianthus Prince Charming*.** Dense mats of little gray leaves about one inch thick, with flower stems 3 to 4 inches high offering an attractive array of light pink flowers in June. This is said to be a form of *D. gratianopolitanus*. Easy to grow in a well drained garden soil in full sun. (pH 6-8) An attractive evergreen for wall planting.

***Dianthus Sammy*.** As pleasing as all pinks are, this one comes close to heading the list as the best for the general rock garden. It forms neat 2 inch high mats of very dense blue-gray leaves that are attractive all through the year and is adorned with an abundance of tiny double carnations on 3 inch stems in May and June. The flowers are a pleasing shade of clear pink. It does well in a well drained or gravelly soil in full sun. (pH 6-8) An exceptionally fine wall plant.

***Dianthus strictus grandiflorus*.** An attractive cushion of gray-green leaves about 2 inches high and clouds of waxy white flowers on erect 8 inch stems in June and July. A desirable species from Europe that requires a gritty lime soil in full sun. (pH 7-8)

Dianthus sylvestris Sharon. (Wood Pink) One of the few Pinks that like shade. It forms an attractive mat of fine gray-green leaves about 2 inches high covered with a blanket of large rose pink flowers on horizontal stems about 3 inches long. Color HCC 628/2, Persian Rose. A June and July bloomer that is easy to grow in a gritty, well drained soil in sun or shade. (pH 6-8) It stays more compact in full sun.

Dianthus Wallace Red. A new introduction that is the most colorful of the dwarf carnation type. Large, sturdy clumps of glaucous green leaves about 5 inches high. The stout upright stems hold large, fully double vivid red carnations from May to frost. A showy and persistent bloomer throughout the summer. An easy and permanent hybrid in a well drained garden soil in full sun. (pH 6-8)

DICENTRA. Bleeding Heart. (Fumariaceae, Fumitory Family)

Dicentra eximia. A 12 to 15 inch high clump of delicate ferny foliage that is a pleasing sight all through the summer. Long racemes of showy rosy purple, heart shaped flowers from May to November. Color, HCC 30/2, Cyclamen Purple. This native of our Eastern States thrives in a good garden soil rich in humus or leafmold. (pH 5-7) It likes shade, semi-shade or full sun if the soil stays moist. One of the few shade lovers that flower all summer. Fine for the shady side of a wall.

Dicentra eximia alba. The same as above except with white flowers, sometimes suffused with a faint tinge of pink. Same soil and exposure.

Dicentra eximia gracilis. The first introduction of our own variety. The segments of the delicate lacey leaves are slender and elongated, giving the entire plant a graceful aspect. Conspicuously different than the ordinary type. The flowers are a deep red-purple and are long and narrow, hanging from slender stems throughout the summer. Same soil and exposure as *D. eximia*.



Dicentra eximia

Dicentra formosa. A similar plant from the Pacific Northwest with more glaucous foliage and light purple flowers from May to November. It forms large colonies by creeping slowly underground. It likes a rock garden loam with humus in shade or semi-shade. (pH 6-8) Quite easy and deserving of space in the shady rock garden.

Dicentra formosa Bountiful. A more vigorous form of the above with flower stems to 2 feet high with an abundance of larger purple flowers all summer. Same soil as above.

Dicentra formosa Sweetheart. A very lovely form of the Western Bleeding Heart with delicate light green ferny foliage and charming pure white flowers on 12 inch stems from May to November. A rich garden loam a bit on the acid side in a moist shady spot. (pH 5-7)

Dicentra oregana. A native of Oregon that grows into low clumps of attractive blue-gray ferny foliage about 6 inches high. The cream and rose hearts are borne on foot high stems in early summer. I like it more for its foliage than for the flowers. An interesting item for collectors. It succeeds in a rich garden loam in shade or half shade. (pH 5-7)

DODECATHEON. Shooting Star. (Primulaceae, Primrose Family)

Dodecatheon cusickii. Neat rosettes of small fleshy leaves about 2 inches high and deep purple flowers with yellow centers on 6 inch stems in April and May. Each little flower looks like a tiny shooting star. Easy to grow in a rich acid leafmold soil in shade. (pH 4-6) It likes lots of water in its growing season in spring and complete dryness in its dormant season, from July onward.

Dodecatheon meadea. The Eastern native Shooting Star, with large, flat leaves in clusters and tall flower stems from 12 to 18 inches high bearing purple, lavender or white flowers in May. This also likes a rich acid leafmold soil in shade. (pH 4-6) Both species should be planted close together in groups to give the best showing.

DORONICUM. Leopards Bane. (Compositae, Daisy Family)

Doronicum cordifolium. This may be a small form of *D. caucasicum*. Low clumps of small cordate leaves about 3 inches high and large, bright yellow daisies on stems from 6 to 15 inches high in April and May. Whatever the proper name, it is a perfect subject for rack gardeners. Easy to grow in ordinary garden soil in sun or light shade. (pH 6-8)

DOUGLASIA. (Primulaceae, Primrose Family)

Douglasia montana. A tiny alpine from the Rocky Mountains that look like little tufts of evergreen moss. It has vivid red-purple flowers nestled in the tight foliage in April. A desirable alpine that is difficult to grow. It should be planted in a moraine or a very gritty, well drained lime soil in sun or light shade. (pH 7-8) Ample cool moisture and good drainage are absolutely necessary.

Douglasia vitaliana. Another dainty alpine, this one from the Swiss Alps. A mat of small rosettes of tiny pale green leaves, edged with white. The fragrant yellow flowers adorn the mossy cushion in April and May. This temperamental alpine also requires a very well drained alkaline soil in sun or light shade. (pH 7-8) Light shade preferred.

DRABA. Whitlow Grass. (Cruciferae, Mustard Family)

Draba fladnizensis. See *Arabis carduchorum*, previously listed as *D. fladnizensis*.

Draba haynaldii. Tiny green leaves in globular rosettes, forming rounded cushions about one inch high with flower stems 2 to 3 inches high bearing little clusters of bright yellow flowers in April. The most difficult of the Drabas to become established. It requires a gritty, well drained lime soil in full sun. (pH 7-8)

Draba longirostra. (Formerly listed as *D. longistrata erioscapa*) Little evergreen buns of tiny fresh green leaves in tight rosettes. Showy clusters of bright yellow flowers on 3 inch stems in late April and early May. Easy to grow in a well drained garden soil in full sun. (pH 6-8) It loves a very gritty, sandy soil. Lovely in rock cravices and dry walls.

Draba olympica. Bright green buns of tiny leaves in tight rosettes that are attractive throughout the year even without the flowers. Large clusters of bright yellow flowers on 4 inch stems in early April. One of the first of the alpine to open in the spring. The easiest of the Drabas to grow in a well drained garden soil in full sun. (pH 6-8) A pleasing evergreen wall plant.

Draba rigida. The tiniest of the genus. Very minute evergreen leaves in tight little tufts about half an inch high with very thin flower stems about two inches high, each with three or four yellow flowers in April. A dainty subject for sink gardens and small rock crevices. I have had it growing in a crack of a concrete wall for years. It wants a gritty lime soil in sun or light shade. (pH 7-8)

Draba sibirica. An evergreen spreading mat forming species from Siberia with small, broad leaves in flat, loose rosettes. A profusion of bright yellow flowers on long ascending stems to 3 inches high in April and May and again in October and November. A pretty ground cover and useful in walls and walks. Easy to grow in ordinary garden soil in sun or half shade. (pH 6-8) Color, HCC 2, Canary Yellow.

DROSERA. Sundew. (Droseraceae, Sundew Family)

Drosera filiformis. An insect eating plant of interesting and attractive appearance. Long thread-like leaves about 6 inches high unfurling from fiddleheads and covered with bright red sticky hairs that hold the insects when they alight. Showy purple flowers on spikes 12 inches high from June to August. This interesting plant is a native of the New Jersey Pine Barrens and must be grown in a wet acid peat or sphagnum bog or at the edges of pools or streams. Full sun or light shade. Soil must always be wet.

Drosera intermedia. This one forms a little rosette of small spoon shaped leaves about 2 inches high, covered with the same sticky red hairs. The leaves curl up around the tiny insects it catches. Small white flowers on 6 inch stems in July.

Drosera rotundifolia. Small rosettes of round leaves on petioles $1\frac{1}{2}$ inches long, covered with the sticky red hairs. White flowers on 6 inch stems in July. All three species glisten when the sun is on their tiny drops of glue. Same treatment as *D. filiformis*.



Courtesy American Rock Garden Society

Edraianthus kitaibelii

DRYAS. Mountain Avens. (Rosaceae, Rose Family)

Dryas octopetala. Resembles a dwarf creeping oak. A low spreading shrub about 3 inches high with leathery, gray-green leaves. The lovely creamy white flowers on 4 inch stems in May and June look like small single roses. The flowers are followed by ornamental fluffy seed plumes. It likes a gritty, well drained soil in sun or light shade. (pH 6-8) An Arctic plant that is quite easy to get established even with our hot summers.

ECHEVERIA. (Crassulaceae, Orpine Family)

Echiveria species. Thick trailing stems in loose mats with the gray-green leaves in dense rosettes at the ends of the branches. It has never flowered for us. Perhaps only a form of Sedum. Hardy and easy to grow in a sandy soil in full sun. (pH 6-8)

EDRAIANTHUS. Wheel Bell. (Campanulaceae, Bellflower Family)

Edraianthus kitaibelii. A rare rock plant that forms thick clumps of thin grass like leaves about 3 inches high. Long, loping flower stems with showy clusters of deep violet-blue bells at the ends. A desirable early summer bloomer for the rock garden or wall. It likes a gritty or well drained garden soil in sun or light shade. (pH 6-8)

EMPETRUM. Crowberry. (Empetraceae, Crowberry Family)

Empetrum nigrum. A spreading, decumbent evergreen shrub about 8 inches high, very similar to the Heaths. Small inconspicuous flowers followed by black berries in fall. It wants a sandy or gritty acid leafmold soil in shade or semi-shade. (pH 4-6)

EPIGAEA. Mayflower. (Ericaceae, Heath Family)

Epigaea repens. (Trailing Arbutus) An evergreen creeper that forms a solid carpet of broad, deep green leathery leaves, studded with clusters of fragrant white or pale pink flowers in May. A highly prized Eastern native that is difficult to get established. It should be planted in a 2 to 3 inch layer of acid leafmold over a gravelly subsoil and watered every day for the first summer after transplanting. Requires shade in cultivation although it is sometimes found out in full sun in the wild.



Courtesy American Rock Garden Society

Epigaea repens

EPIMEDIUM. Barrenwort. (Berberidaceae, Barberry Family)

Epimedium alpinum rubrum. (Formerly listed as *E. grandiflorum coccineum*) Beautifully ornamental clumps of airy graceful foliage about 12 inches high, pierced by stiff stems bearing dainty sprays of brilliant crimson and cream flowers in April and May. It will grow in full sun or dense shade but prefers a woodsy atmosphere, in a rich acid loam with a liberal admixture of peat or leafmold. (pH 5-7)

Epimedium grandiflorum Rose Queen. The same attractive clump of feathery foliage as above. The leaves on both of these are bronzy, edged with red. This is the largest flowered variety. Vivid rosy red petals with greatly elongated spurs. A real novelty. Same soil and exposure as above.

Epimedium pinnatum sulphureum. This species from Persia has the same lovely foliage but in looser, spreading clumps. Lovely soft sulphur yellow flowers in April and May. Acid loam with leafmold in shade or sun. (pH 5-7)

Epimedium youngianum niveum. A dainty beauty from Japan. Small leaves in dense feathery clumps about 6 inches high with a profusion of lovely pure white flowers in April and May. One of the loveliest plants for a shaded rock garden or for woodland planting. Same soil and exposure as *E. alpinum rubrum*.



Epimedium youngianum niveum

Epimedium youngianum violaceum. Exactly the same as *niveum* but with flowers a delicate shade of pale violet. Well worth space for the foliage alone.

ERICA. Heath. (Ericaceae, Heath Family)

Like the Callunas, the Ericas herein listed are perfectly hardy evergreen dwarf shrubs of indispensable value in the rock garden. All the species listed are natives of Europe and all are distinct either in habit of growth or in flower. These handsome subjects offer a good range of color and a long blooming season, extending from November right through the winter and spring to August and September. A section of these plants with the Callunas, Daboecias and Bruckenthalia will be loved and cherished for years on end. All the Ericas require the same soil as the Callunas and other ericaceous shrubs, that being a light peaty acid leafmold soil composed of peatmoss, acid leafmold sharp sand and loam. They all prefer full sun but can stand some light shade.

Erica carnea Ruby Glow. A six inch high compact mound of spreading, almost prostrate branches with fine dark green leaves that turn a rich bronze color in fall. Truly glowing ruby red flowers in February, March and April. A slow growing form of the *carnea* group.

Erica carnea Snow Queen. A very dwarf and compact grower about 4 inches high with crowded tiny leaves and a profusion of snow white flowers from December to April. Our plants are in full bloom today, December 30, 1953.

Erica carnea Springwood. A quickly spreading variety with long trailing stems only 3 inches high. Bright clear pink flowers from February to April. Excellent as an evergreen ground cover on sandy banks.

Erica carnea Springwood White. The charming white flowered form of the above. Light green leaves in a fast growing mat. These two can be sheared to keep them in bounds.

Erica cinerea atropurpurea. This is my favorite of the Heaths. It forms compact domes of thin arching branches with very dark green, often mahogany colored leaves. Always neat and attractive in rather symmetrical globes from 10 to 15 inches high. It is turned into a crimson satin cushion in June and July by its hundreds of glowing bells.



Courtesy American Rock Garden Society
Erica carnea variety

Erica cineria violacea. A taller, more upright grower than the one above, but the same mahogany foliage throughout the year. Large bold spikes of glistening deep violet bells in superimposed whorls in June, July and August.

Erica darleyensis. (Winter Heath) A hybrid between *E. carnea* and *E. mediterranea* with dark green leaves on arching branches that form compact mounds from 12 to 18 inches high. The flowers begin to open in a light pink shade in November and turn deeper in color as they mature. It comes into full bloom in March with the flowers a cheery rosy red.

Erica mackaii plena. (Formerly listed as *E. tetralix mackayana plena*) A hybrid between *E. tetralix* and *E. ciliaris*. It forms soft velvety cushions of downy foliage about 3 inches high. The leaves are green and the tips of the branches are always bright red. The fully double red flowers are borne in clusters at the ends of the branches from July to October. It needs protection in the far north.

Erica tetralix. (Cross Heath) A rounded bush of decumbent branches with soft, downy gray-green leaves. The large showy clusters of pink flowers are held well above the foliage from June to November. Each little flower looks like a tiny urn made of glass.

Erica tetralix mollis. The growth on this one is a little more sturdy and upright than *E. tetralix*. The leaves are grayer and the large clusters of flowers are pure white from June to November. It blooms much more profusely if the old flowers are picked off as soon as they fade.

Erica vagans alba. (Cornish Heath) A vigorous upright growing shrub with bright green leaves on sturdy branches from 12 to 24 inches high. It develops into a very attractive, compact specimen with the white flowers in large fluffy whorls around the tips of the branches from July to October.

Erica vagans Mrs. D. F. Maxwell. Undoubtedly one of the best evergreen shrubs for the rock garden! A sturdy upright grower with compact dark green foliage topped with a halo of long spikes of vivid bright pink flowers from July to October. This one always sells on sight.

Erica vagans nana. A beautiful dwarf variety of this hardy species with very short, crowded branches only about 4 to 6 inches high. It is topped with little whorls of white flowers in July and August. An excellent dwarf to plant with the tiny *Callunas*.

Erica vagans St. Kevern. A popular old favorite to members of the American Rock Garden Society. Much like Mrs. Maxwell, with clear light pink flowers and not quite as robust. A very long blooming season, from July to the end of October.

Erica williamsii. A pleasing hybrid between *E. tetralix* and *E. vagans*. Mounds of decumbent branches about 6 inches high with light green foliage. The new growth is shaded pink and gold. Charming clear rose colored flowers on long spikes from June to September. The earliest of the summer bloomers to flower.

ERIGERON. Fleabane. (Compositae, Daisy Family)

Erigeron compositus. Tight little tufts about 2 inches high of deeply cut wooly gray leaves and lovely white daisies one inch across on 3 inch stems in July and August. A gem of the Rocky Mountains that requires a gritty or sandy, well drained lime soil in full sun. It is best planted in a crevice. Excellent drainage is essential. (pH 7-8)

Erigeron pinnatisectus. Finely cut tiny green leaves in tight evergreen tufts about 2 inches high. It has very conspicuous bright lavender-blue daisies 1½ inches across in June and July. This is the best of the alpine Fleabanes I have seen. It requires a gritty alkaline soil in sun or light shade. Good drainage is absolutely essential. (pH 7-8)

ERIOGONUM. (Polygonaceae, Knot Weed Family)

Eriogonum subalpinum. (Sulphur Flower) A pleasing ornamental slowly spreading mat of wooly gray leaves in flat rosettes about 3 inches high, adorned with numerous umbels of soft sulphur yellow flowers in June and July. Excellent for dry walls in full sun. A native of the Rocky Mountains that requires a well drained, gritty lime soil in full sun. (pH 7-8)

ERIOPHYLLUM. (Compositae, Daisy Family)

Eriophyllum lanatum. (Oregon Sunshine) Large clumps of silvery, woolly deeply cut foliage about 10 inches high and great masses of vivid orange yellow daisies on 10 inch stems from June to August. An excellent summer blooming plant for the rock garden or dry wall. It is easy to grow in a well drained or gritty garden soil in full sun. (pH 6-8)

ERYSIMUM. Blister Cress. (Cruciferae, Mustard Family)

Erysimum kotschyannum. A dense little cushion of gray-green, tiny denticulate leaves in tight rosettes about one inch high. Clusters of bright yellow, extremely fragrant flowers on 2 inch stems in April and May. A very desirable little gem from the high mountains of Asia Minor. It loves a gritty lime soil in sun or very light shade. (pH 7-8) Excellent for tight rock crevices and wall gardens.

EUONYMUS. Wintercreeper. (Celastraceae, Staff Tree Family)

Euonymus fortunei minimus. (E. kewensis) A delightful little twining vine with tiny dark green leaves veined with white. It loves to trail over rocks and walls, making thick evergreen mats. Only slightly tenacious. It thrives in any garden soil in sun or shade but prefers shade. (pH 5-8)

Euonymus japonicus nanus. A very dwarf and compact evergreen shrub with stiff upright branches from 10 to 15 inches high with tiny dark green leathery leaves. It requires some protection in the north. Easy to grow in any ordinary garden soil in sun or light shade. (pH 5-8)

EUPHORBIA. Spurge. (Euphorbiaceae, Spurge Family)

Euphorbia myrsinites. Long trailing stems of fleshy, blue-gray leaves terminated with showy yellow flowers in May. It looks like a huge *Sedum sieboldi*. The trailing stems are evergreen and do not root down, but self-sown seeds come up readily. Easy in a well drained garden soil in full sun. A very attractive wall plant. (pH 6-8)

Euphorbia epithymoides. Quite big, but still useful and very showy for the rock garden and perennial border. A loose clump of long oval leaves on woody branches from 12 to 18 inches high topped with pleasant chrome yellow flower bracts in May and June followed by red seed pods. The branches freeze back to the base every winter. Easy to grow in any garden soil in sun or light shade. (pH 6-8)

FILIPENDULA. Meadowsweet. (Rosaceae, Rose Family)

Filipendula hexapetala flore-pleno. (Dropwort) Very ornamental and a most desirable addition to any rock garden. Flat mats of deep green, very finely cut ferny foliage and sturdy stems from 12 to 18 inches high bearing huge clusters of double white flowers in June and July. The flowers look like large fluffy snowballs. Easy to grow in any ordinary garden soil that is a bit on the acid side. (pH 5-7) Sun or light shade. It prefers to have its roots in damp soil at the edge of a pool or stream.

Filipendula palmata nana. (*Spiraea digitata nana*) Low clumps of intricate ferny leaves about 5 inches high that develop into slowly spreading evergreen carpets with each succeeding year. It has very attractive clusters of bright pink flowers on 12 inch stems from June to September. Easy to grow in any ordinary garden soil but prefers it a little acid, in full sun or light shade. (pH 5-7)

FORSYTHIA. Golden-Bells. (Oleaceae, Olive Family)

Forsythia viridissima bronxensis. Here is the dwarf rock garden shrub everyone has been waiting for. Just like the familiar Golden-Bells seen in every landscaped plot in early spring, but this one grows only 12 inches high. It has graceful arching branches that bear lovely yellow bells early in the spring before the long narrow leaves appear. Like the large Forsythias, it makes an attractive foliage plant all summer. It is easy to grow in any ordinary garden soil in sun or light shade. (pH 6-8) This adorable plant was introduced by the New York Botanical Gardens about 6 years ago and still is very rare.

FRAGARIA. Strawberry. (Rosaceae, Rose Family)

Fragaria darwinii. A quickly creeping mat of dark glossy green strawberry leaves about 3 inches high with very large snow white flowers on 3 to 4 inch stems in June. The flowers are like lovely single white roses. It has never fruited for us. The attractive semi-evergreen mat is delightful as a ground cover in an acid loam in full sun or light shade. (pH 5-7)

Fragaria vesca. An everbearing, non-creeping alpine strawberry. Neat compact clumps of strawberry leaves about 8 inches high. Showy white flowers on upright stems from 8 to 10 inches high, followed by very delicious bright red berries. It is continuously in flower and fruit from June to December. Two dozen plants will produce enough berries for a family of five to enjoy two or three times a week all through the summer. The flavor of these berries make the large commercial varieties taste like watery pulp. Easy and permanent is a slightly acid soil in full sun or light shade. (pH 5-7)

GALAX. (Diapensiaceae, Diapensia Family)

Galax aphylla. A perfectly hardy and extremely useful native of Virginia that forms a solid carpet of large evergreen, heartshaped, leathery, shining green leaves from 5 to 8 inches high. In June it sends up many wands about 2 feet tall, with thin spikes of fuzzy white flowers. In fall and winter the foliage is a beautiful bronze color. Excellent for planting under Rhododendrons and other very shady places. It requires an acid leafmold soil in shade or semi-shade. (pH 4-6) It takes a year to establish.

GALIUM. Bedstraw. (Rubiaceae, Madder Family)

Galium verum. An attractive ground cover of long decumbent stems clothed in tiny green leaves in thick whorls. Covered with a shower of tiny yellow flowers in July and August. It makes a delightful wall plant. It tends to become weedy if it is not confined. Easy to grow in any ordinary garden soil in sun or light shade. (pH 6-8)

GAULTHERIA. Wintergreen. (Ericaceae, Heath Family)

Gaultheria procumbens. One of our best Eastern native evergreen creepers that is excellent for ground cover in shade or half sun. It forms a solid carpet of oval dark green leathery leaves that turn a dark red color in fall and winter. Short stems with loose clusters of white flowers, tinted with pink in May and June. Very large, brilliant scarlet berries in fall and winter. The leaves and berries are very tasty, used in the making of oil of Wintergreen and teaberry candies. It likes an acid leafmold soil in shade or semi-shade. (pH 4-6) It prefers the rotted needles of pine or spruce.

GAYLUSSACIA. Huckleberry. (Ericaceae, Heath Family)

Gaylussacia brachycera. (Box Huckleberry) A beautiful evergreen ground cover shrub about six inches high that spreads by underground runners. It makes a solid mat of small, dark glossy green leaves that turn a rich bronze in fall. The new growth is bright crimson. It flowers and berries sparsely. A rare and coveted species, originally propagated from the oldest living plant in the world, found in South Western Pennsylvania. It requires an acid leafmold soil in sun or shade. (pH 4-6) It prefers shade but the leaves hold a wonderful reddish color when exposed to the sun.

GENISTA. Broom. (Leguminosae, Pea Family)

Genista delphinensis. A little mat of completely prostrate leafless strap-like branches. The short branches are dark green and broadly winged. It has small upright stems bearing clusters of bright yellow flowers in May and June. It looks like a miniature *G. sagittalis* and perhaps is a form of it. It must have a well drained sandy or gritty soil in full sun. (pH 5-8) Acidity is not an important factor but perfect drainage is.

Genista germanica. A compact evergreen shrub from 10 to 15 inches high with small leaves and spiny branches. One of the few brooms that retains its leaves for any length of time. In May and June it is completely covered with a striking mass of vivid yellow flowers. A fast and easy grower in any ordinary garden soil in sun or light shade. (pH 5-8) A wonderful wall garden plant.

Genista pilosa. A compact dome of leafless, silvery gray branches from 12 to 18 inches high that bears an abundance of bright clear yellow pea flowers in May and June. Lovely and interesting for a dry sunny spot in the rock garden or wall garden. It likes a dry sandy soil in full sun, (pH 5-8) however it grows equally as well in any ordinary garden soil. Once it is planted it does not like to be moved.

Genista sagittalis. A cascade of arching, broadly winged, dark green branches as much as 18 inches long but only 4 to 5 inches high. Long ascending stems bearing large clusters of bright yellow flowers in May and June. An excellent plant from the Balkans for a dry wall, tumbling over large rocks or as a ground cover in a hot sandy spot. It requires a gritty or sandy well drained soil in full sun. (pH 5-8)

Genista silvestris pungens. A very graceful and interesting shrub from Dalmatia, with compact, very spiny, almost leafless dark green branches in compact mounds about 6 inches high. In July when the others are finished blooming this one produces myriads of pure golden yellow pea flowers. An exquisite subject for a dry wall or rock crevice. It wants a well drained, lean gritty or sandy soil in full sun. (pH 5-8)

Genista villarsii. The dwarfiest of the lot. A very tiny shrub with thin, soft gray twigs in compact tufts about 3 inches high. Bright yellow flower in May and June. Quite difficult to grow. It requires a very gritty or sandy lime soil in full sun. (pH 7-8) Good drainage is absolutely essential. It likes a sunny rock crevice.

GENTIANA. Gentian. (Gentianaceae, Gentian Family)

Gentiana acaulis. The well known and much coveted alpine Gentian from the Swiss Alps. It forms low evergreen mats of short, broad leaves about one inch high. The huge blue flowers as much as three inches long sit right on top of the mat in April and May. It does not particularly like low altitudes but it can be grown successfully if it is given a gritty acid loam with lots of humus or leafmold or peatmoss in a cool, lightly shaded location. It is absolutely hardy but quite often succumbs to the heat of our summers. (pH 5-6)

Gentiana autumnale. (*Gentiana porphyrio*) A very charming native of our New Jersey Pine Barrens. It consists of a few wiry stems with a few thin grass-like leaves. The huge deep blue flowers are carried at the tips of the stems in August and September. It requires a very sandy acid soil in sun or light shade. The best soil to give it is $\frac{3}{4}$ sand and $\frac{1}{4}$ acid leafmold. (pH 4-5)

Gentiana decumbens. A very pretty and easily grown gentian. It forms clumps of long narrow leaves about 5 inches high and long decumbent flower stems bearing clusters of brilliant blue flowers in June and July. Very graceful and showy and easy in a rich acid loam in sun or light shade. All the gentians want a constant water supply in summer. (pH 5-6)

Gentiana macauleyi. A loose mat of trailing or creeping stems with long, narrow light green leaves. Each stem is terminated with a huge bright blue flower in August or September. This is a very desirable hybrid like a gritty acid loam rich in peatmoss or leafmold in a lightly shaded area, with an abundance of moisture. It will not withstand full sun in the summer. (pH 5-6)

Gentiana septemfida lagodechiana. A very low, mat forming variety with densely leaved trailing stems. Very dark blue flowers at the ends of the stems in June and July. A very desirable and easily groom subject for the rock garden. It requires a rich acid loam in a lightly shaded location. (pH 5-6) Good drainage, ample moisture, rich soil and light shade are required to insure success with all the gentians.

Gentiana sino-ornata. Loose mats of rather fleshy, pale green leaves on creeping stems, very similar to *G. macauleyi*. The large flowers at the ends of the stems in June and July are deep blue, striped with green and white on the outside. This one also likes a moist, rich, gritty acid loam in light shade. (pH 5-6) Color, HCC 42, Gentian Blue.

Gentiana sikokiana. Probably the easiest and best of the Gentians for the amateur gardener. It makes very attractive mats on dark green leaves on long trailing stems only 3 inches high, but sometimes 18 inches long. Very large light blue flowers along the stems in September and October. Two year old plants have had as many as 75 flowers at one time. Very easy to grow in a well drained, rich acid loam in sun or light shade. (pH 5-6)

GERANIUM. Cranesbill. (Geraniaceae, Cranesbill Family)

Geranium grandiflorum alpinum. Large five lobed leaves in tall clumps from 8 to 12 inches high superimposed with huge glistening purple-blue flowers on 15 inch stems in late May and June. An extremely colorful plant for early summer bloom in the rock garden. Easy to grow in any ordinary garden soil in sun or light shade. (pH 6-8)

- Geranium ibericum.** A tall species but useful in large rock gardens and in the flower border. Very large seven lobed leaves in heavy clumps about 18 inches high. Clusters of large brilliant purple flowers on tall stems in June. Any ordinary garden soil in sun or light shade. (pH 6-8) Color, HCC 39/1, Methyl Violet.
- Geranium maculatum.** Our somewhat weedy Eastern native deserves some attention. Large clumps of attractive foliage about 18 inches high. It produces great masses of lovely rose-purple flowers in May. Ordinary garden soil in sun or half shade. (pH 5-8)
- Geranium maculatum album.** The very rare pure white form of the Wood Geranium. As tall as the preceding and just as easy to grow.
- Geranium pylzowianum.** A dainty little dwarf from China that deserves a place in every rock garden. Loose mats of small, deeply lobed leaves about 2 inches high. Comparative large delicate rose colored flowers on fragile 3 inch stems in May and June. It likes a well drained, gritty soil in sun or light shade. (pH 6-8) The daintiest of the genus.
- Geranium sanguineum.** An old familiar plant in the rock garden that is cherished by everyone. Ornamental evergreen clumps of lobed leaves about 3 inches high. The leafy flower stems are about 12 inches tall, topped with a profusion of deep red-purple flowers from June to August. Color HCC 32, Petunia Purple. A very colorful mid-summer bloomer for the rock garden or wall garden. Easy to grow in any ordinary soil in sun or light shade. (pH 6-8)
- Geranium sanguineum album.** The lovely and very rare pure white form of the preceding. Same soil and exposure as above.
- Geranium sanguineum lancastriensis.** A choice variety of dwarf and spreading habit with quantities of delicate pink flowers from June to August on almost prostrate stems. Very stunning in dry walls or hanging over large rocks in the rock garden. Ordinary garden soil in sun or light shade. (pH 6-8)

GEUM. Avens. (Rosaceae, Rose Family)

- Geum borisi.** A choice rock plant that forms large clumps of interesting foliage about 6 inches high. Erect flower stems about 12 inches high, bearing large bouquets of vivid orange flowers in May and June and again in fall. Easy in any ordinary garden soil in sun or light shade, but it prefers a wet soil, near the edge of a pool or stream. (pH 6-8)



Geum borisi.

GLOBULARIA. Globe Daisy. (Globulariaceae, Globularia Family)

- Globularia bellidifolia.** Lovely compact buns of tiny dark green evergreen leaves about one inch high, with dainty little blue puff balls on two to three inch stems in May. A desirable plant for rock crevices in a lightly shaded area in a well drained gritty soil. (pH 6-8) A rare beauty that should be in every rock garden.

Globularia cordifolia. A spreading, prostrate shrubby species about 2 inches high with interesting leathery evergreen leaves, notched at the apex. Fuzzy blue puff balls on 4 inch stems in May and June. A native of southern Europe that is excellent for the shady side of a wall. It likes a well drained garden soil in sun or light shade. (pH 6-8)

Globularia repens. A tiny creeping evergreen shrub only about half an inch high, with very shiny green leaves in dense slowly spreading mats. The flowers are little globes of blue fuzz on one inch stems in May and June. Very rare in the wild and in cultivation. It requires a gritty, well drained lime soil in sun or light shade. (pH 6-8) It should be shaded from the hot noon sun in summer or it might burn.

GYPSOPHILA. Babysbreath. (Caryophyllaceae, Pink Family)

Gypsophila cerastioides. A low, slowly creeping mat of little woolly gray leaves about two inches high, sprinkled with dainty white flowers, veined with pink from May to July. A choice species from the Himalayas that likes a gritty, well drained alkaline soil in sun or light shade. (pH 7-8) It is lovely between steeping stones and tight crevices. It needs some protection in the North.

Gypsophila repens. Quickly spreading mats of blue-gray fleshy leaves on prostrate trailing stems. It is evergreen in sheltered position but perfectly hardy even in exposed places. It has loose sprays of comparatively large white flowers on ascending stems to 3 inches high from early May to July and again in the fall. A species from the Swiss Alps that is easy and permanent in a well drained garden soil in sun or very light shade. (pH 6-8) One of the choicest wall garden subjects.

Gypsophila repens fratisensis. (Formerly listed as *G. fratisensis*) An adorable form of the preceeding with an abundance of clear light pink flowers over a long season. It is also a slower, more compact grower. Some treatment as *G. repens*.

HABERLEA. (Gesneriaceae, African Violet Family)

Haberlea rhodopensis. Neat flat rosettes of small oval thick hairy leaves that form compact colonies in shaded rock crevices. It has 4 inch stems with rosy lilac flowers in May and June. The flowers, as much as one inch across resemble those of the African Violet. An extremely hardy species from the Balkans that must be grown in an almost perpendicular rock crevice in shade, with acid leafmold. (pH 5-6) Very difficult to grow but rewarding when you see the fascinating flowers.

HEBE. (Scrophulariaceae, Figwort Family)

Hebe decumbens. A very pretty and interesting evergreen shrub from New Zealand that is perfectly hardy in the North. It forms a compact dome about 10 inches high with small gray leaves, edged with pink or red. It has small white flowers in short spikes above the foliage in May and June. We consider it more of a foliage plant than a flowering one. A rarity that is always in great demand. It is easy to grow in a well drained garden soil in full sun. (pH 6-8)

HEDERA. Ivy. (Araliaceae, Gensing Family)

Hedera colchica. The most beautiful Ivy I have ever seen. It is a slow climbing evergreen with large, heart shaped leathery leaves that turn a pleasing shade of mottled bronze in winter. A real rock garden vine for growing over rocks, walls or large trees. Easy to grow in any ordinary garden soil in sun or shade but prefers shade. (pH 6-8)

Hedera helix. The well known English Ivy that needs no description. Ours is a deep green large leaved variety that is perfectly hardy. It has been grown in the open here for 30 years without any protection. Easy in any soil in sun or shade. (pH 6-8)

Hedera helix baltica. The equally well known Baltic Ivy. A small leaved, bronzy form of the above. Perfectly hardy anywhere. Ordinary soil in sun or shade. (pH 6-8)

Hedera helix conglomerata. An extremely slow growing variety with small, crinkly, wavy leaves set close together on trailing stiff branches. One of the best and rarest of the dwarf Ivys. Perfectly adapted to rock garden culture. It prefers shade in any ordinary garden soil. (pH 5-8)

Hedera helix meageri. A slowly creeping vine with compact, small leaves that are deeply cut giving it a feathery appearance. Another rare form for the rock garden or shaded wall. Ordinary garden soil in sun or shade. (pH 5-8)

Hedera helix minima. An extremely handsome slow growing dwarf with upright or procumbent branches about 12 inches high with very small, closely set, glossy green leaves that turn a deep purplish in fall. Well worthy of a conspicuous place in your rock garden. Easy in sun or shade in any ordinary soil. (pH 5-8)

HELIANTHEMUM. Sun Rose. (Cistaceae, Rock Rose Family)

The Sun Roses are indispensable rock plants that provide a mass color effect in June and July. Most bloom sparsely for the remainder of the summer. All the varieties are distinct in both foliage and in their gay flowers. With the exception of *H. apenninum* and *H. grandiflorum* all are probably forms of *H. nummularium*. They are hardy dwarf evergreen shrubs that are easy to grow and long lived. They require a sandy, gritty well drained soil in full sun. (pH 6-8) Good drainage and a sunny location are of prime importance. They are unsurpassed as dry wall plants. They tolerate lots of moisture and will also withstand any amount of drought once they are established. A light cover of evergreen boughs is recommended in the winter in the far north.

Helianthemum apenninum. Long arching branches with attractive silvery leaves and large white flowers in loose racemes on ascending stems from 6 to 10 inches high. Valuable for its graceful arches of silvery leaves as a contrast to the green varieties.

Helianthemum Apricot Queen. A compact, low growing variety from 4 to 6 inches high with large dark glossy green leaves and a profusion of showy apricot pink flowers. Even without flowers this one is a very desirable evergreen.

Helianthemum Ben Ledi. Probably the most colorful with bright crimson single roses with a center of yellow stamens. Extremely colorful and a prolific bloomer. It grows into a compact dome of small green leaves from 8 to 10 inches high.



Helianthemum Buttercup

Helianthemum Buttercup. A very neat compact dome from 4 to 6 inches high with attractive light green leaves, completely covered with an abundance of bright buttercup yellow flowers. This one is the most symmetrical in growth.

Helianthemum Fire Ball. An upright grower with thin branches clothed in small dark green leaves in compact bushes to 12 inches high. The brilliant fire red, fully double flowers are carried well above the foliage. Usually in flower from June to October.

Helianthemum Gold Nugget. Similar to Fire Ball in habit of growth but it has fully double light yellow flowers on graceful stems in great profusion.

Helianthemum grandiflorum multiplex. This is the dwarfiest of the Sun Roses. It makes thick mats of dark green leaves on completely prostrate branches that follow the contour of the rocks and ground. The fully double bronze flowers look very much like dwarf bronze pompom Chrysanthemums.

Helianthemum Mrs. Mould. A compact, upright growing shrub about 8 inches high with attractive gray foliage on stiff, sturdy stems. Quantities of glistening salmon pink flowers with fringed edges. This is a real fancy dandy.

Helianthemum Rose Peach. The tallest variety with thin upright branches to 15 inches high with very long and narrow dark green leaves. The showy roses are a pleasing shade of peach blossom pink.

Helianthemum Wendle's Rose. (*H. rhodanthum*) Long arching branches of lovely soft gray leaves in compact domes about 8 inches high. A profusion of clear rose pink flowers make this one of the favorites. Probably a variety of *H. apenninum*.

HELLEBORUS. (Christmas Rose.) (Ranunculaceae, Buttercup Family)

Helleborus niger. Highly ornamental evergreen clumps of very thick, deeply cut and lobed dark green leaves about 5 inches high and very large pure white flowers on stout six inch stems from September to April. This is the true Christmas Rose that stays in bloom all through the winter. The showy single white roses turn a deep pink color with age or in severe freezing weather. This species from Europe is the best of the genus and requires a rich, moist acid soil with a good amount of leafmold or peatmoss in a shaded or semi-shaded location.

HEPATICA. Liverleaf. (Ranunculaceae, Buttercup Family)

Hepatica acutiloba. Very neat and pretty clumps of dark glossy green leaves with three sharp pointed lobes about 6 inches high. The charming Anemone-like flowers are borne on 8 inch stems in early April and range in color from deep blue to pink and white. The plants are evergreen in a sheltered position or under cover in winter. A perfectly hardy native American that likes a rich leafmold soil in shade or semi-shade. Soil should be neutral to acid. (pH 5-7)

Hepatica americana. (*H. triloba*) A very close relative of the preceding with the attractive evergreen leaves consisting of three broad, round lobes. The same charming flowers in shades of pink, blue and white. This species usually found on limestone mountains likes a rich black leadmold soil with a high lime content. (pH 6-8) Plant it in shade.

HEUCHERA. Alum. Root. (Saxifragaceae, Rockfoil Family)

Heuchera americana begoniaefolia. Huge clumps of large maple-like leaves about 10 inches high. The leaves are attractively marbled with red, pink and bronze. It has very tall stems with inconspicuous green or brown flowers. This is strictly a foliage plant that likes an acid loam in sun or shade. (pH 5-6)

Heuchera glabra. Very neat and attractive small light green leathery leaves in little clusters about two inches high. Short flower stems only about 8 inches high with comparatively large white flowers in April and May. A rare Rocky Mountain alpine that wants a gritty neutral to acid soil in shade. (pH 5-7)

Heuchera sanguinea. (Coral Bells) Lovely clumps of wavy, crinkly, lobed and toothed leaves from 6 to 10 inches high. It has tall, graceful, slender swaying flower stems from 18 to 24 inches high with dense sprays of vivid fire-red flowers in June, July and August. The evergreen foliage is attractive throughout the year. A native of Arizona that is absolutely hardy and thrives in any ordinary garden soil in sun or light shade. (pH 6-8) Wonderful for dry walls and rock crevices.

Heuchera sanguinea Oakington Jewel. An improved form of the preceding species with crisp, dark green leaves marbled with dark red. The airy sprays of flowers are a dark blood red. Same soil and exposure as above.

Heuchera sanguinea Rosamonde. The same lovely evergreen foliage as *H. sanguinea*. This charming variety has ample sprays of clear light pink flowers from June to August.

Heuchera sanguinea Snowflake. Pure white flowers in abundance. A colony of these hardy plants nestled at the base of a huge rock with their tall wands waving in the slightest breeze is a lovely sight to behold.

HOUSTONIA. Bluets. (Rubiaceae, Madder Family)

Houstonia coerulea. (Bluets or Quaker Ladies) Very tiny dark green leaves in tight tufts about one inch high, completely covered with myriads of pretty porcelain blue, four pointed stars in April and May and a few through the summer. A little gem you will always cherish and always have, for it comes up readily from self sown seed. A native of New England that thrives in a loose acid loam in sun or light shade. (pH 5-6) The delicate blue flowers often fade to pure white in full hot sun.

Houstonia longifolia. An extremely rare and charming species that forms dense tufts of long lance shaped leaves about 3 inches high. The 6 inch flower stems carry pretty fluted pale lavender flowers in dense cymes in April and May. A rare Eastern native that likes partial shade in a gritty, moist acid soil. (pH 5-6)

Houstonia serpyllifolia. A quickly spreading evergreen mat of tiny leaves on creeping stems, only $\frac{1}{4}$ to $\frac{1}{2}$ an inch high. Fascinating deep blue flowers on 2 inch stems in April and May. This one must have a moist acid soil in shade. A cunning little creeper that clings to moss covered rocks and lovely between stepping stones of a shaded walk. (pH 5-6)

HUDSONIA. Beach Heather. (Cistaceae, Rock Rose Family)

Hudsonia ericoides. A dwarf, compact, upright growing Heath-like shrub about 8 inches high, with very fine hair-like leaves and small but vivid and showy yellow flowers in May and June. A difficult native of the New Jersey Pine Barrens that requires a very sandy acid soil in sun or light shade. (pH 4-5) The soil should be 3 parts sand and one part acid pine leafmold.

Hudsonia tomentosa. (Silver Beach Heather) Another native Pine Barren species that is just as difficult as the foregoing. A dwarf shrub with small scale-like silvery leaves and a shower of bright yellow flowers in May. It must have the same acid sand as *H. ericoides*.

HUTCHINSIA. Pepperwort. (Cruciferae, Mustard Family)

Hutchinsia alpina. A choice tiny alpine from the European Alps. Little tufts of very finely cut, dark green ferny foliage about 2 inches high. Little clusters of white flowers are held above the evergreen leaves in April and May. A little gem for a conspicuous spot in a well drained, gritty lime soil in sun or very light shade. (pH 7-8)

HYDROCOTYLE. (Umbelliferae, Carrot Family)

Hydrocotyle peduncularis. An evergreen ground cover only $\frac{1}{2}$ inch high, with very small, kidney shaped, dark glossy green three lobed leaves that form very attractive solid evergreen mats. It likes a moist soil in sun or light shade along the edges of streams and pools but it will succeed in a dryer garden soil in part shade. (pH 6-8)

HYPERICUM. St. JohnsWort. (Hypericaceae, St. JohnsWort Family)

Hypericum olympicum. An interesting subshrub from Asia Minor that forms almost prostrate mats of very thin, long trailing stems with small blue-gray leaves. Huge bright yellow flowers as much as 2 inches across are borne at the ends of the branches in June and July. A lovely plant that should have some protection in the far north. It is easy to grow in a well drained garden soil in full sun. Useful as a cover for the tiny bulbs.

Hypericum rhodopeum. Flat dense mats of long trailing stems with velvety, silver leaves and huge bright yellow flowers in June and July. The large flowers on these tiny plants are quite amazing. Easy to grow in a well drained garden soil in full sun. Lovely in wall gardens or tumbling over large rocks. This one is a fast creeper that makes a fine evergreen ground cover. It should be given winter cover in the north.

HYPOXIS. Star-Grass. (Amaryllidaceae, Amaryllis Family)

Hypoxis hirsutus. A dainty little May flowering plant from our Eastern woodlands that deserves a place in some shaded nook in your rock garden. A little clump of very long grass-like, hairy green leaves and stems about 6 inches high bearing vivid yellow stars in May and sometimes through the summer. It likes shade and an acid woodsy soil. (pH 5-6) These should be planted close together in thick colonies for a good show.

IBERIS. Candytuft. (Cruciferae, Mustard Family)

Iberis gibraltarica. An attractive shrubby plant about 12 inches high with thick glossy green leaves and large showy clusters of flowers in April and May. The color varies from pale lilac to deep purple. It is lovely for rock gardens, edgings and borders. Easy to grow in a well drained garden soil in full sun. (pH 6-8) It is such a prolific bloomer that quite often it kills itself in the second or third year, however self sown seedlings spring up readily.

Iberis saxatilis. One of the best and most interesting plants in the list. A tiny shrubby plant about 2 inches high, with dwarf, twisted branches and very small dark evergreen leaves in terminal clusters. It has large clusters of white flowers that completely cover the plant in April and May. It looks like a tiny dwarf Japanese tree. It must have a well drained, gritty lime soil in full sun. (pH 7-8) This is the true form.

Iberis saxavirens. (Iberis saxatilis hybrid) This is my own name for a very charming hybrid between *Iberis saxatilis* and *I. sempervirens*. It is a very dwarf, creeping mat forming plant about 2 inches high or lower. The slowly spreading little branches are densely covered with tiny evergreen leaves. It is a prolific bloomer, with the little clusters of flowers hiding the entire plant in late April and May. It makes a wonderful wall plant. An easy grower in a well drained garden soil in full sun. (pH 6-8)

Iberis saxavirens Barbara Lynch. A charming plant named for my charming niece. It is my own selected seedling of *Iberis saxavirens*. It is a vigorous grower that resembles *I. saxatilis* on a large scale. The gnarled, twisted branches are clothed with thick, pointed, dark green leaves and large clusters of waxy white flowers in May make this an outstanding rock garden or wall garden plant. It is easy to grow in a well drained garden soil in full sun. (pH 6-8)



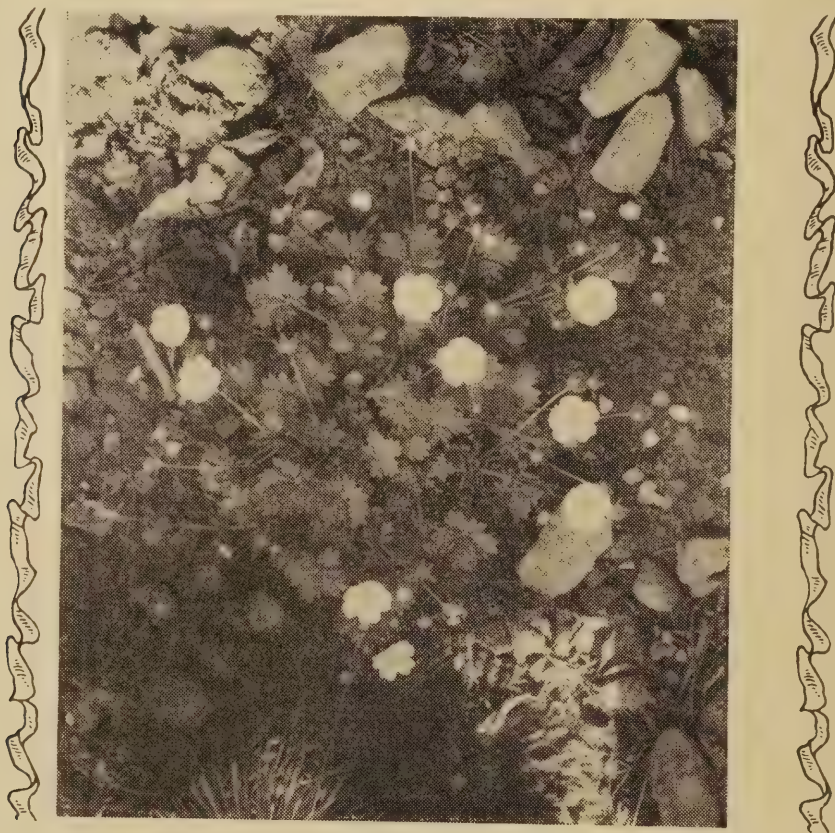
Photo Courtesy of American Rock Garden Society

Iberis sempervirens Snowflake

Iberis sempervirens. This well known and lovable old rock plant forms large spreading bushes of dark green evergreen leaves on erect or procumbent branches about 12 inches high, topped with a great abundance of large pure white flower clusters in May and June. A fine wall plant as well as an edging and bedding plant. Easy to grow in any ordinary garden soil in sun or light shade (pH 6-8).

Iberis sempervirens Christmas Snow. A remarkable variety of the preceeding created by Mr. Guy G. Nearing. It blooms as profusely from September to December as it does in May and June. In mild climates it has produced flowers all through the summer and winter. A rare variety that is easy to grow in any garden soil in sun

Iberis sempervirens Little Gem. A dainty little plant with an overworked name. A dwarf, compact, upright grower about 6 inches at its highest. The closely set tiny leaves are completely smothered by the mass of white flower clusters in May and June. A plant of distinction that should have a place in every garden. It is lovely in rock crevices and dry walls. Ordinary garden soil in full sun or very light shade. (pH 6-8)



Potentilla verna nana

Iberis sempervirens Snowflake. Similar to *I. sempervirens* but with stouter stems and thicker leaves. The waxy white flowers are almost twice the size of the usual candytufts. One of the best edging plants as well as a remarkably fine wall plant. Ordinary garden soil in full sun. (pH 6-8)

ILEX. Holly. (Aquifoliaceae, Holly Family)

Ilex crenata hellerii. A very dwarf and compact growing little shrub from 8 to 15 inches high, with stiff, horizontally spreading branches covered with very small, rigid, leathery evergreen leaves. A striking little bush of unexcelled beauty that seems to have been created especially for rock gardens. It is permanent and easy in a rich, well drained acid loam in full sun or light shade. (pH 5-6) I have a plant over 30 years old that is only 12 inches high and 24 inches in diameter. All our plants are propagated from this specimen or its offspring. It is more dense and compact than some plants I have seen. It is wonderful for accent in the rock garden and even in dry walls.

Ilex crenata nummularia. Another form of the Japanese Holly that is even more dwarf and a much slower grower than the preceding. It grows into a dwarf and irregular bush about 8 or 10 inches high with very stout and stiff branches. The tiny oval or round leaves are set close together and close to the branches. Quite difficult to propagate, hence very rare. It does well in a well drained rich acid loam in full sun or light shade. (pH 5-6)

IRIS. Iris. (Iridaceae, Iris Family)

Iris cristata. (Crested Iris) A choice and easy eastern American native that creeps quite quickly, forming large sheets of graceful, emerald green, arching leaves from 5 to 8 inches high, liberally studded with large, wide open delicate blue flowers scarcely above the foliage in May and June. A wonderful plant for shade or semi-shade in a light, acid leafmold soil. (pH 5-6). The rhizomes creep on top of the ground and they should not be covered or they will rot.

Iris cristata alba. A lovely companion to the one above with the same shining green foliage, but with beautiful pure white flowers in profusion. Very rare and coveted by all ardent rock gardeners. Give it the same soil and exposure as above. Both will stand full sun if the soil remains moist all summer.



Courtesy American Rock Garden Society

Iris gracilipes

- Iris flavissima. (Iris arenaria)** A very rare and difficult little iris from northern Europe and Asia. It consists of little clumps of narrow, grass-like leaves about 3 or 4 inches high and 4 inch stems, each with 2 or three little yellow flowers in April and May. For best results the thick rhizomes should be planted in a 3 inch layer of sand, with its roots in a gravelly loam that in neutral or slightly acid. (pH 5-7) The best way to plant is to scoop out the soil to a depth of 2 or three inches, then firm the roots into the under soil, being careful not to cover the thick rhizomes. When that is done, sift sharp sand over the plants until, the rhizomes are completely covered. It is a little trouble, but you will be rewarded with many years of lovely flowers. If you plant in any other soil the plants will die in a year or two.
- Iris gracilipes.** For sheer beauty and profusion of flowers, this dainty iris takes the prize. Ruffled lavender-blue flowers veined deep lilac, held on 5 inch stems over dainty clumps of narrow, arching deep glossy green leaves. This Queen of the race comes from Japan and blooms in May and June. It is easy and permanent in a rich, light acid loam with leafmold or humus in shade or partial shade. (pH 5-6)
- Iris gracilipes alba.** The extremely rare and exquisitely beautiful pure white flowered form of this perfect rock garden iris. The demand will always be greater than the supply. Give it the same treatment as the preceeding.
- Iris gracilipes flore-pleno.** An odd and interesting form of this dainty species. The delicate lavender-blue flowers are double with as many as 30 petals to a flower. It is hard to picture a double iris, but this one is quite double and very beautiful. It is easy to grow and permanent in a light acid leafmold soil in shade or partial shade. (pH 5-6) Quite often only a few of the flowers will be double the first year after planting. Once the plants become established they will produce an abundance of doubles.
- Iris lurida.** Large clumps of stiff, upright leaves about 12 inches high and sturdy stems bearing smoky mahogany red flowers in June. Easy in full sun in any ordinary garden soil. (pH 6-8) A dwarf bearded iris of unknown origin that we consider more interesting than beautiful.
- Iris mellita. (I. rubro-marginata)** The smallest of the dwarf bearded irises. Tiny, red edged sickle shaped leaves about 3 inches long lying flat on the ground in dense little mats or tufts. Comparatively large dark reddish-purple flowers spring from the base of the leaves, about 2 inches high, in May and June and again in the fall. A very interesting and elfish looking plant from Asia Minor that likes a rich but well drained gritty acid or neutral loam in full sun. (pH 5-7) Extremely rare and very slow growing. It should be planted where it will not be in danger of being overrun.
- Iris minuta.** Another extremely dainty Japanese iris that has long been loved by people fortunate enough to have it in their rock garden. The little yellow and brown flowers appear in April on very short stems scarcely above the ground. The pretty clumps of narrow, grass-like leaves about 5 inches high form after the flowers are gone. This is a free flowering strain that requires a neutral to lime soil rich in leafmold or humus in a moist shady place. (pH 6-8) It is so tiny it is apt to get lost if not watched.
- Iris prismatica. (Prismal or Cube-Seed Iris)** A rather tall but very graceful and beautiful Eastern American native that is useful for the edges of pools and streams or for screening large rocks as a background for some of the smaller plants. It forms large clumps of long narrow leaves from 12 to 18 inches high with dainty violet-blue flowers on tall graceful wands about 18 inches high. Its native habitat is wet bogs or wet muck along streams but it does equally as well in a dry loam in full sun or light shade. (pH 4-6) It resembles the well known Siberian Iris.
- Iris pumila. (Crimean Iris)** A fascinating group of very dwarf bearded irises that have long been favorites in rock gardening circles. They form large clumps of broad, light bluish-green leaves about 7 inches high and huge flowers scarcely above the ground, before the leaves are full grown in April. This variety formerly listed by us as **Iris pumila cyanea** has large deep violet flowers. As far as I can tell it is the same as all those listed as *Altroviolacea*, *Violacea*, *Cyanea*, *Purpurea* and *Atropurpurea*. This is probably the closest anyone can come to the true wild form.
- Iris pumila Bride.** A pure white flowered form that blooms later than the type with the flowers on short stems to 4 inches high. This is probably a garden hybrid. This and all the other varieties of *Iris pumila* are easy and permanent in any ordinary garden soil in full sun. (pH 6-8)
- Iris pumila Excelsa.** A light clear yellow flowered form, more like the variety Bride than the true type. There are many other yellows with different names that are similar to this.

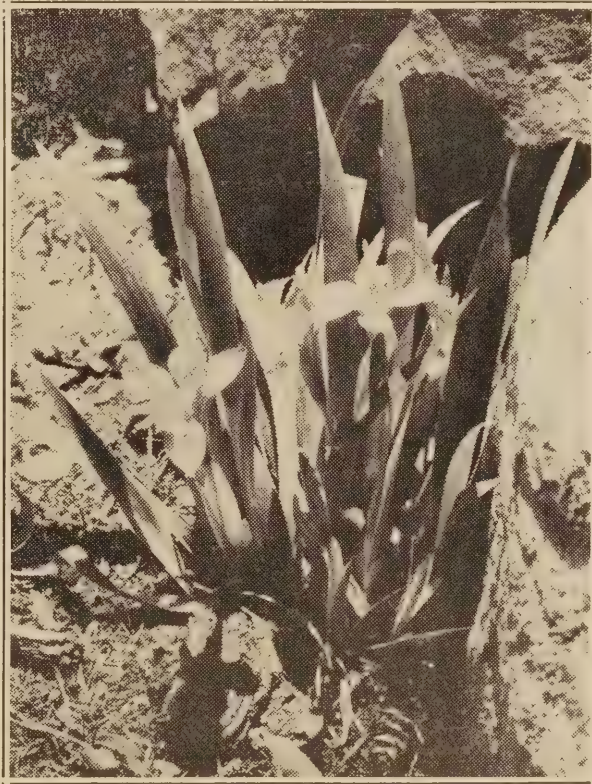
Iris pumila Fairy. (Formerly listed as *Iris pumila azurea*) This is a dwarfer form than the type with narrower leaves and smaller flowers of a delicate clear sky blue color.

Iris pumila Mauve Mist. A new variety with pale mauve colored flowers that are shaded with darker purple. I don't particularly like the cloudy color.

Iris pumila Rose Mist. Another new variety that is one of the so called Pinks. It is very similar to Mauve Mist but perhaps a little closer to rose colored.

Iris tectorum. (Roof Iris) Spreading clumps of attractive broad leaves from 12 to 15 inches high and sturdy stems from 15 to 18 inches high, each bearing two or three wide open lilac-blue flowers in May and June. The flowers look like huge gorgeous orchids. Easy to grow in any ordinary garden soil that is not too limy in sun or light shade. (pH 5-7) This one makes a lovely wall garden plant. It is said to grow wild on the thatch roofs in Japan.

Iris tectorum album. The extremely rare and very lovely pure white flowered form of the above. Both the leaves and flowering stems are shorter than the type, making this one of the best rock garden varieties. Same soil and exposure as above.



Iris verna

Iris verna. (Vernal Iris) Another lovely Eastern American dwarf iris with long gracefully arching dark glossy green leaves in slowly creeping clumps about 6 inches high. Small but very showy deep violet-blue flowers with orange markings appear in May and June. It wants a very acid leafmold or humus soil in shade or partial shade. (pH 4-5) It is reputed to be difficult but I find it quite easy and permanent, especially if the soil is kept moist all summer.

Iris verna vexans. This is my own name for a variety of the Vernal Iris that I had always thought to be something else. It has short, erect, dull glaucous green leaves in dense clumps about 5 inches high. The lovely little flowers are a light violet-blue color with light orange markings. I have had this variety for the past eight years, growing in a heavy acid loam in full hot sun. It is very prolific and is much more compact than the type. It is a lovely form regardless of its true name or origin.

JASIONE. Sheep Scabious. (Campanulaceae, Bellflower Family)

Jasione perennis. A showy plant for rock garden, crevices and walls that forms neat tufts of long narrow leaves about 3 inches high, from which spring sturdy erect stems from 10 to 18 inches high, bearing dense globular heads of dark blue flowers from June to August. It is a bit tall but very desirable for its colorful flowers in mid-summer. Easy to grow in a well drained garden soil in sun or light shade. (pH 6-8)

JASMINUM. Jasmine. (Oleaceae, Olive Family)

Jasminum parkerii. A choice and rare spreading dwarf shrub of neat compact habit only about 8 inches high. Evergreen pinnate leaves of 3 to 5 leaflets and very fragrant, starry flowers of clear yellow in June and July. This handsome little shrub comes from the Himalayas and is hardy here but needs protection farther north. It succeeds in a well drained garden soil in sun or light shade. (pH 6-8)

JEFFERSONIA. Twin Leaf. (Berberidaceae, Barberry Family)

Jeffersonia diphylla. Large 12 inch high clumps of interesting and ornamental light bluish green leaves that are divided into two kidney shaped parts. Large snow white flowers on 6 to 12 inch stems in April, before the new wine colored leaves are completely unfurled. A handsome Eastern American native plant for a shaded nook in a rich acid loam. (pH 5-6)

Jeffersonia dubia. The Chinese cousin to the one above. Attractive 12 inch clumps of leathery, heart shaped green leaves. The edges are irregularly angled with straight lines. Lovely cup shaped light blue flowers in April. A rare plant that thrives in a rich acid to neutral loam in shade or partial shade. (pH 5-7)

KALMIA. Laurel. (Ericaceae, Heath Family)

Kalmia angustifolia. (Lambkill) A well known plant to most people in the Eastern United States. A dwarf evergreen shrub from one to three feet high with small broad oval leathery leaves and large very showy whorls of bright purple pink flowers near the ends of the branches in June and July. It spreads by underground runners but in cultivation it stays in a dense compact bush. It loves a sandy, acid leafmold soil in sun or shade. (pH 4-6) Half shade or filtered sunlight is the best exposure.

Kalmia polifolia microphylla. (Bog Laurel) A charming and rare little shrub with erect, very stiff branches and small oval bluish-green evergreen leaves. Large rosy-purple bell shaped flowers at the ends of the branches in May. This is the true form, native to wet and acid bogs in the Rocky Mountains, however it does well in a dryer, acid leafmold soil in partial shade or full sun if the soil is kept moist all summer. (pH 4-6) We grow it in the same beds with our Heaths and Heathers.

Kalmia polifolia rosmarinifolia. A Canadian bog laurel with slender upright branches from 12 to 18 inches high with long narrow leaves in loose clumps. Very pretty rose-purple wide open bell flowers in loose clusters in May. Same soil and exposure as above. Because of the thin leaves and somewhat rangy growth I recommend planting a Heath or Heather with it to give it body.

LAMIUM. Nettle. (Labiatae, Mint Family)

Lamium maculatum. A vigorous, somewhat weedy plant that forms large spreading clumps of colorful foliage from 6 to 10 inches high. The small oval leaves are dark green with a blotch of white in the center of each one. In winter the leaves are colored with purple, green; pink and white. It has showy bright lavender flowers in spikes from May on through the summer. Easy in any ordinary soil in sun or light shade. (pH 6-8)

Lamium maculatum album. The pure white flowered variety of the preceeding. It is the same in all respects except for the color of the flowers.

LAVENDULA. Lavender. (Labiatae, Mint Family)

Lavendula officinalis Munstead. An upright, compact shrubby plant from 12 to 18 inches high and just as broad. It has attractive woolly gray leaves that are fragrant when bruised and long spikes of fragrant lavender flowers in June and July. A useful evergreen plant from the Mediterranean region that is fine for dry walls and sunny rock gardens. Easy to grow in a well drained garden soil in full sun. (pH 6-8) This is the plant that produces the lavender scent for bath salts and perfumes.

Lavendula officinalis Twickle Purple. A dwarf variety only 8 to 10 inches high with grayer, woollier leaves and spikes of dark purple flowers. Much slower and more compact in growth than the one above.

LEIOPHYLLUM, Sand Myrtle. (Ericaceae, Heath Family)

Leiophyllum buxifolium. An attractive compact evergreen shrub from 10 to 18 inches high with tiny glossy green leaves closely set on the wiry branches and dainty clusters of bright pink buds that open to fluffy white flowers at the tip of almost every branch in May and June. A native of the New Jersey Pine Barrens that likes a sandy, acid leafmold soil in full sun or light shade. It is easy if it is given sand, leafmold and sun and watered every day for the first few weeks after transplanting. (pH 4-5)



Courtesy American Rock Garden Society

Leiophyllum buxifolium

Leiophyllum buxifolium prostratum. An extremely dwarf from that I found near the town of Forked River in the Pine Barrens of New Jersey. The branches are completely prostrate with only the very tips holding the clusters of white flowers held above the ground. The original plants found growing in adverse conditions were rather straggly but under cultivation they have developed into tight mats of tiny shining evergreen leaves. This is not *Leiophyllum lyonii* which is usually called *prostratum* and found only on one mountain top in Tennessee. This new and interesting plant wants a sandy, acid leafmold soil in sun or light shade. (pH 4-5) It is just as dwarf in shade as it is in sun.

LEONTOPODIUM, Edelweiss. (Compositae, Daisy Family)

Leontopodium alpinum. The well known and beloved flower of the Swiss Alps. Lovely mounds of very densely woolly gray leaves about 4 inches high and many erect stems bearing attractive silvery-white woolly flower heads in late spring. The Edelweiss should be planted in a gritty lime soil in full sun where it will have a deep and well drained root run. It should be kept as dry as possible in winter. It is best planted in a rock crevice or dry wall under an overhanging rock. (pH 7-8)

*Leontopodium alpinum***LEWISIA. (Portulacaceae, Purslane Family)**

Lewisia columbiana. Tight evergreen tufts of linear, thick fleshy leaves about 2 inches high. Graceful airy sprays of small pink flowers on thin stems from 8 to 10 inches high in June. One of the prettiest, easiest and most persistent of the Lewisias from the Northwest Pacific region. It should be planted in a deep pocket of gravelly acid soil with very good drainage in light shade or filtered sunlight. It will stand full sun if it is protected from the hot noon time sun. The crown of the plant should be mulched with an inch thick layer of stone chips. (pH 5-6)

Lewisia howellii. Large flat rosettes of broad and very thick fleshy leaves. The rosettes are from 3 to 8 inches in diameter and about 3 inches high. They send up thin stems about 6 inches high with attractive airy sprays of small deep rose pink flowers in June. The directions for growing *L. columbiana* should be followed here to the letter. Remember perfect drainage is absolutely essential.

Lewisia rediviva. (Bitter Root) An interesting and extremely beautiful native of the Rocky Mountains that requires a good bit of attention in the East. Pretty rosettes of fleshy, dark green, long narrow leaves that begin to grow in September and remain green all winter. The very large, multi-petaled, delicate rose colored flowers, as much as three inches in diameter are produced in June on 2 inch stems. When the plant is in full bloom the foliage disappears completely and remains dormant all summer. This remarkable plant requires a light sandy or gritty acid soil in full sun. (pH 5-6). Good drainage and a thick mulch of stone chips is essential.

LINARIA. Toadflax. (Scrophulariaceae, Figwort Family)

Linaria alpina. A lovely little alpine from the Swiss Alps that forms mats of tiny bluish-gray leaves on thin trailing stems and bears quantities of bright purple flowers each with an orange throat all through the summer. A quick and easy grower in ordinary garden soil in full sun. (pH 6-8) It is short lived, but reseeds itself freely.

LINNAEA. Twin Flower. (Caprifoliaceae, Honeysuckle Family)

Linnaea borealis americana. This very popular rock garden subject forms large spreading, solid evergreen mats of small hairy green leaves, pierced by slender flower stems about 3 inches high, each with two charming rose pink, fragrant, nodding, tubular flowers in June or later. This North American native is a perfect little gem for the rock garden in a rich acid leafmold soil in shade. (pH 4-6) Contrary to popular belief it is easy and permanent if given the above treatment. The long trailing stems should be cut back once or twice for the first two years to encourage branching.

LINUM. Flax. (Linaceae, Flax Family)

Linum flavum. (Golden Flax) An attractive clump of small, oval, dark green leaves on sturdy, erect stems about 12 inches high, topped with a shower of large, very showy golden yellow flowers in July and August. This lovely summer blooming plant comes from central Europe and is an easy grower in a well drained garden soil in full sun. (pH 6-8) It is usually short lived and requires some protection in the north. This is the same plant as the one usually called **Linum flavum compactum**.

Linum salsoloides nanum. A real treasure for the rock garden. Evergreen mats of long trailing stems with fine hair-like blue-green leaves. Large silvery white flowers are nestled on the soft foliage. This rare plant likes a gritty, well drained lime soil in full sun. A wonderful wall plant. (pH 7-8) It requires winter protection in the far north. It is reliably hardy here.



Lewisia howellii

Courtesy American Rock Garden Society

LIRIOPE. Lily-Turf. (Liliaceae, Lily Family)

Liriope muscari. A vigorous evergreen ground cover that forms quickly spreading sheets of long grassy leaves about 8 inches high. The heavy roots and dense growth quickly eliminate all other plants. It has 12 inch high spikes of purple flowers resembling the Grape Hyacinth, followed by blue-black berries in October. It seems to grow in almost any soil either in sun or shade. (pH 5-8) A good solid root mass for stopping washes on banks.

Liriope muscari variegata. A less invasive, more beautiful plant than its parent above. A wonderful plant for foliage effect all through the year and flowers to lend color to the rock garden in fall. It has long, arching leaves variegated with yellow stripes in neat attractive clumps and 12 inch high spikes of purple flowers in August and September. Give it ordinary garden soil in sun or shade. (pH 5-8)

LITHOSPERMUM. Gromwell. (Boraginaceae, Borage Family)

Lithospermum diffusum Heavenly Blue. A beautiful little shrubby plant about 4 inches high with long trailing branches of very hairy, dark evergreen leaves and lovely gentian blue flowers from June till October. Color, HCC 42, Gentian Blue. It makes a gorgeous display trailing over rocks in light shade or filtered sunlight. This pleasing little jewel comes from southern Europe and requires a fairly rich, gritty, well drained acid leafmold soil. (pH 5-6) It requires winter protection inland and in the far north.

Lithospermum diffusum Grace Ward. Similar to the variety above except that the leaves are larger and the flowers are slightly larger and of a lighter sky blue color.

LOTUS. Baby Slippers. (Leguminosae, Pea Family)

Lotus corniculatus. An attractive loose mat of fast growing, slender trailing or ascending stems with light green pinnate leaves. Thin ascending flower stems about 5 inches long bearing clusters of clear bright yellow pea flowers in June and July. A species widespread in Eurasia that grows well in any ordinary garden soil in sun or light shade. (pH 6-8) It may become weedy in open beds but it makes a wonderful wall plant.

Lotus pinnatus. A slow growing ground cover that forms solid mats of deep blue-green pinnate leaves only about one inch high. It is liberally studded with large showy clusters of vivid yellow flowers in June and July. A highly ornamental rock plant that is native to the West Coast and thrives in any good garden soil in sun or light shade. (pH 6-8) It is good for a walk plant between stepping stones and as a wall plant.

LYCHNIS. Campion. (Caryophyllaceae, Pink Family)

Lychnis alpina. Dense little tufts of long narrow leaves about 2 inches high that produce sturdy flower stems about 5 inches high, each bearing a large tight cluster of red flowers in April and May. An alpine or arctic plant that is easy to grow in a well drained garden soil in full sun. (pH 6-8) It is lovely in rock crevices and dry walls.

Lychnis haageana. A wonderful hybrid rock plant that forms a neat clump of spreading branches about 6 inches high, topped with huge, flaming scarlet flowers on short stems. A striking plant that blooms profusely in May and June and again in September. It is easy to grow in a light, well drained garden soil, in full sun or very light shade. (pH 6-8)

Lychnis viscaria flore-pleno. Very thick, broad clumps of long narrow leaves about 6 inches high that are more or less evergreen. It has tall flower stems from 12 to 18 inches high with long spikes of dark red-purple double flowers in May and June. Useful in the rock garden, border or wall garden. Ordinary garden soil in full sun. (pH 6-8)

LYGODIUM. Climbing-Fern. (Schizaeaceae, Schizea Family)

Lygodium palmatum. A beautiful and interesting climbing fern with long vine-like fronds that twine up and around branches of nearby bushes and trees. They climb as much as 4 feet high. The segments of the fronds are divided into large palm shaped leaflets. This fern is quite rare and rather difficult to get established. It likes a layer of acid leafmold over a base of moist sandy soil. (pH 4-5) It grows in shade or half shade.

MALVASTRUM. False Mallow. (Malvaceae Mallow Family)

Malvastrum coccineum. (Prairie Mallow) Loose, airy clumps of decumbent stems about 6 inches high, clothed with attractive deeply cut silvery gray leaves and topped with silky vivid orange-red flowers from July to September. This interesting plant comes from the Rocky Mountains and requires a sandy, gritty, well drained lime soil in full sun. (pH 7-8) Because of its long woody roots it is difficult to grow in nursery beds and they cannot be kept in pots too long. It usually takes two or three years to become established in a rock garden and when it does it will remain forever.

MARSHALLIA. (Compositae, Daisy Family)

Marshallia grandiflora. (Formerly listed as Marshallia Species) Neat clumps of dull green narrowly spoon-shaped leaves about 4 inches high that produce tall bare stems from 15 to 20 inches high, each one bearing a large dense head of small tubular white flowers in June. A native of the Southeastern States that is perfectly hardy and grows well in any ordinary garden soil in full sun or very light shade. (pH 6-8)

MAZUS. (Scrophulariaceae, Figwort Family)

Mazus reptans. A fast growing ground cover that can become weedy but too small to be a real hazzard in the rock garden. It forms solid mats of low leafy rosettes about one inch high, with myriads of large lavender flowers sitting on top of it. A native of the Himalayas that thrives in almost any soil and in either full sun or dense shade. Useful for between flags in walks and as a cover in shade where not much else will grow. It prefers a lightly shaded or filtered sunlight exposure.

MERTENSIA. Bluebells. (Boraginaceae, Borage Family)

Mertensia virginica. A lovable eastern American native that is rather tall for the small rock garden, but excellent for the wild garden in a rich acid loam in shade or half shade. (pH 4-6) It has very large, oval, bluish leaves about 12 inches high in heavy clumps and tall flower stems to 18 inches high with showy clusters of large, nodding bell flowers in April and May. The buds are a rosy mauve color and the open flowers are clear blue. The plants go dormant soon after flowering.

MICROMERIA. (Labiatae, Mint Family)

Micromeria juliana. A slowly spreading mound of thin trailing stems covered with soft, woolly gray green leaves about 5 inches high. It has long lateral spikes of small lavender flowers in June and July. It resembles the wooly thyme on a large scale. An attractive evergreen plant that is useful in wall gardens and is easy to grow in any ordinary garden soil in full sun. (pH 6-8)

MITCHELLA. Partridge Berry. (Rubiaceae, Madder Family)

Mitchella repens. A pretty evergreen ground cover that forms solid sheets of small, rounded, dark green leaves veined with white, on long creeping stems. Dainty white flowers in May and June are followed by striking scarlet berries in fall and winter. An American native that requires a rich acid leafmold soil in shade or semi-shade. (pH 4-6) The long trailing stems should be cut back to encourage branching.

MUEHLENBECKIA. Wire Plant. (Polygonaceae, Knotweed Family)

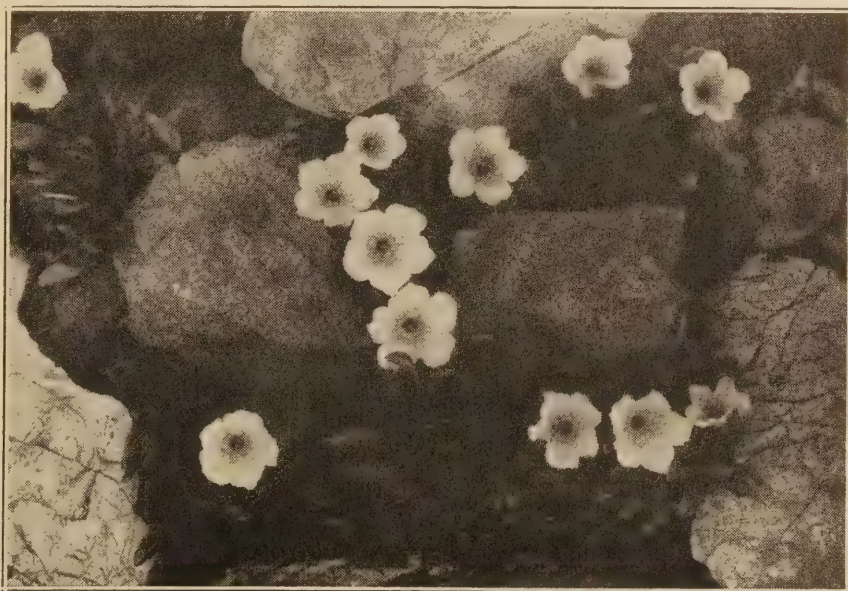
Muehlenbeckia axillaris. A tiny shrub from New Zealand that forms large thick mats of thin, wiry stems about two inches high, with tiny dark green leaves that make beautiful carpets between rocks and stepping stones. It has inconspicuous flowers in summer. It is an excellent cover over early blooming bulbs. Easy and permanent in any ordinary garden soil in sun or half shade. (pH 6-8)

NEPETA. (Labiatae, Mint Family)

Nepeta mussinni. Very attractive in the rock garden or on a dry wall where it forms cascades of glistening silvery leaves about 10 inches high, with long racemes of light blue flowers from May to September. A very vigorous plant that quickly gets out of bounds in small rock gardens. If it is cut back severely after its first flowering it will stay smaller and produce more flowers. Easy to grow in any garden soil in full sun. (pH 6-8)

NIEREMBERGIA. Cup Flower. (Solanaceae, Nightshade Family)

Nierembergia rivularis. (White Cup) A solid carpet of deep green, small wavy leaves about one inch high, attractively studded with very large and showy creamy white cup-shaped flowers from June to October. This little gem makes a pleasing display creeping between rocks in a lightly shaded area or along the edge of a pool or stream in full sun. It likes a loose, sandy soil well fortified with acid leafmold. (pH 5-7) It requires winter protection north of the New York City area.



Nierembergia rivularis

OENTHERA, Sun-Drap. (Onagraceae, Evening-Primrose Family)

Oenothera caespitosa. Small flat rosettes or clusters of dull green, long oval leaves about 3 inches high. Each rosette produces several huge white cup-shaped flowers as much as three inches across. Only one flower opens at a time and usually lasts for two days. These spectacular flowers are produced in May and June. A native of the Dakotas that likes a sandy, well drained limy soil in full sun. (pH 7-8) The plants usually last only three or four years.

Oenothera fruticosa youngii. (Sun-Drop) An attractive clump of erect stems from 12 to 18 inches high with neat green foliage and topped with multitudes of bright yellow flowers in July and August. A very desirable summer blooming plant for a sunny spot in the rock garden or perennial border. Easy to grow in any ordinary garden soil (pH 6-8) It creeps slowly by underground runners.

Oenothera lavendulaefolia. Neat little mounds of thin wiry stems about 6 inches high with silvery-gray leaves like those of the Lavenders. It has bright yellow, broad petaled flowers that are almost square when they are wide open. It is in bloom over a long season from May to August. A native of the eastern foothills of the Rockies. It likes a well drained, sandy soil in full sun. (pH 7-8)

Oenothera missouriensis. A spectacular plant from the Missouri Valley with stout trailing or ascending stems with long narrow, dull gray-green leaves which form an attractive low and broad mound about 5 inches high. The very large, clear yellow flowers are about 3 or 4 inches across and open in the afternoon or early evening during June and July. It is one of the best wall plants. It likes a rather dry, well drained sandy lime soil in full sun. (pH 7-8)



Courtesy American Rock Garden Society

Oenothera caespitosa

Oenothera serrulata. Wiry stems about 6 inches high that make dense clumps with its tiny bright green leaves. It has quite large bright yellow, wavy petaled flowers in June and July. A very pleasing little plant for the rock garden or wall garden. Another native of the Dakotas that likes a well drained, sandy lime soil in full sun. (pH 7-8)

Oenothera triloba. Large clumps of long green leaves that look like robust dandelions with large bright yellow flowers nestled among the leaves. You have to get up early to appreciate the attractive flowers of this one. The flowers open after dark in the evening and close about 9 in the morning. It is easy to grow in a well drained garden soil in full sun. (pH 6-8)

OMPHALODES. Navelwort. (Boraginaceae, Borage Family)

Omphalodes verna. (Creeping Forget-Me-Not) Spreading clumps of long stalked, pointed, deep green leaves about 5 inches high and bright blue flowers in loose sprays in April and May. The flowers are the same as those of the common Forget-Me-Nots. This one makes a very pleasing evergreen ground cover in a rich acid soil with humus or leafmold in a moist shaded area. (pH 5-6)

Omphalodes verna alba. The same lovely evergreen creeper as above except that it has pure white flowers with yellow eyes. Same soil and exposure as above.

OPUNTIA. Prickly Pear. (Cactaceae, Cactus Family)

Opuntia compressa. Our Eastern native hardy cactus which forms large masses of flat, thick fleshy leaf-like joints. It has very pretty, large silky yellow flowers in June. Each flower is about 3 inches in diameter. It is an excellent plant for poor sandy soil or hot dry rocks, although it grows well in any well drained soil in a sunny location. (pH 4-8) The long sharp spines are weapons to be avoided.

Opuntia fragilis. A dwarf prostrate grower that covers the ground with a close mat of prickly green. The large yellow flowers open from salmon colored buds and the almost round, thorny joints are only about an inch in diameter. It comes from the Arctic Circle where it is subjected to 50 below zero. It likes a well drained garden soil in full sun. (pH 5-7)

Opuntia polyacantha. A western species with large flat joints that are covered with a thick coat of white spines, giving it a hoary aspect. It has lovely large silken flowers that vary in color from lemon yellow to red and bright orange. It requires a sandy or gritty, well drained soil in full sun. (pH 5-7)

PACHISTIMA. (Celastraceae, Staff Tree Family)

Pachistima canbyi. A little evergreen shrub that grows into attractive rounded bushes about 10 inches high, covered with small, leathery, dark green leaves. If it is grown in the shade the branches become long and decumbent, making a loose ground cover. The small flowers are hardly noticeable. A native of the mountains of Virginia and West Virginia. It likes an acid leadmold soil and in sun or shade. (pH 4-6) It stays more compact in sun.

PACHYSANDRA. Spurge. (Buxaceae, Boxwood Family)

Pachysandra procumbens. (Alleghany Spurge) Our rare native spurge that forms large attractive clumps of dark green, thick leathery leaves about 10 inches high. It has dense, six inch high spikes of odd white flowers in early April, before the new foliage unfurls. An excellent plant that is usually overlooked by landscapers. It can be used as a ground cover or as a specimen plant in a shady nook in a rich acid loam. (pH 5-6). It does not creep like ordinary Pachysandra.

PAPAVER. Poppy. (Papaveraceae, Poppy Family)

Papaver alpinum. A dainty dwarf Poppy from the Swiss Alps. It forms little clumps of graceful pale green, ferny foliage about 5 inches high and thin stems about 10 inches high with delicately colored silky flowers all through the summer. The flowers vary from white to shades of pink and yellow. It is easy to grow if given a well drained, sandy lime soil in full sun. (pH 7-8) It makes a perfect wall plant.

PELLAE. Cliff Brake. (Polypodiaceae, Fern Family)

Pellaea atropurpurea. Long, slender, leathery fronds about 12 inches high in loose clumps. The stipes are dark purple and the leaflets are a lovely blue-gray color. A natural rock loving fern that inhabits the limestone ledges in our Eastern Mountains. It must be grown in a crevice of a rock with a bit of leafmold for food. (pH 7-8) It will not live in an open bed.



Photo by G. G. Nearing

Pachysandra procumbens.

PENSTEMON. Beard Tongue. (Scrophulariaceae, Figwort Family)

- Penstemon aridus.** Little tufts of narrow green leaves about two inches high and erect flower stems from 4 to 6 inches high with spikes of little purple-blue flowers in June. A tiny plant from the Rockies for a rock crevice. It likes a well drained, gritty lime soil in full sun. (pH 7-8)
- Penstemon caespitosus.** A tiny creeper that makes neat little cushions about half an inch high, with very tiny thyme-like leaves. Little lilac colored flowers on one inch stems in May and June. A pretty plant for a hot sunny spot in a well drained, gritty lime soil. (pH 7-8) It is nice between stepping stones or on a wall.
- Penstemon coloradoensis.** One of the best and prettiest in the list. A creeping, shrubby species that forms undulating mounds of silvery foliage about 4 inches high, with a gay profusion of showy flowers that vary from pink to lavender-blue. It likes a dry sunny spot in a well drained gritty lime soil. (pH 7-8) A nice wall plant.
- Penstemon crandallii.** Very similar to the above in habit of growth but the leaves are broader and the flowers are a clear shade of blue. It blooms in May and June. Another one from the Rockies that requires a well drained gritty lime soil in full sun. (pH 7-8)
- Penstemon davidsonii.** A fast creeping prostrate shrub with very attractive thick leathery rounded leaves that are a dark glossy green. It makes an outstanding evergreen mat about half an inch thick with ascending stems bearing rather large purple flowers in May and June. One of the easiest of the Rocky Mountain species to grow. It likes a well drained gritty soil in full sun. (pH 6-8) It loves to grow over pockets of almost pure gravel. An exceptionally fine wall plant.
- Penstemon dissectus.** An Eastern native plant quite new to cultivation. It grows into large attractive clumps of dark green, deeply cut leaves on tall upright stems from 12 to 18 inches high, topped with a spike of purple flowers in June and July. An easy plant to grow in any ordinary garden soil in sun or light shade. (pH 6-8) Useful in the rock garden and perennial border or at the edge of the wild garden.

Penstemon fruticosus. A large evergreen shrub with long decumbent branches making attractive mounds about 18 inches high. It produces long spikes of huge tubular purple flowers in May and June. A very impressive shrub for a hot sunny spot in a well drained, gritty lime soil. (pH 7-8) Another native of the Rockies. This and all the others from the Rockies like a thick mulch of stone chips over their roots.

Penstemon hirsutus. Another tall Eastern species that makes clumps of tall stems from 18 to 30 inches high with showy spikes of colorful flowers in May and June. The flowers vary from purple to shades of blue and pink. More of a broder plant than a rock garden subject. It grows in any garden soil in sun or light shade. (pH 5-8)

Penstemon hirsutus pygmaeus. An extremely dwarf form of the above that was spontaneous in our nursery in Hillsdale. It is a dense clump of evergreen leaves about 4 inches high, with huge loose clusters of pale lavender flowers gracefully draped over the leaves in June. An exceptionally fine rock garden or wall garden subject. It is easy to grow in a well drained garden soil in full sun. (pH 6-8)

Penstemon menziesii. A noble shrub about 6 inches high, making attractive spreading mounds of thick, decumbent, creeping branches covered with thick leathery dark green, evergreen leaves. It has huge purple trumpets on 6 inch stems in May and June. One of the easiest to grow in a well drained garden soil in full sun. (pH 6-8) A wonderful wall plant.

Penstemon rupicola. One of the best and perhaps the most difficult of the alpine penstemons. It is a dense compact bun of thick fleshy and leathery leaves on decumbent stems about 4 inches high with large rose-crimson flowers in July and August. Truly one of the most desirable of the dwarf evergreen shrubs for the rock garden. It must have a very well drained gritty soil with a good amount of acid leafmold in a sunny or light shaded place. (pH 5-6) A thick mulch of stone chips is essential.

Penstemon tolmiei. A beautiful herbaceous species that forms low leafy clumps of broad oval dark glossy green leaves about 3 inches high and erect stems about 8 inches high, bearing showy spikes of fragrant lavender flowers in May and June. It is easy in a well drained garden soil in full sun. (pH 6-8)

PETALOSTEMUM. Prairie-Clover. (Leguminosae, Pea Family)

Petalostemum villosum. Soft woolly gray leaves on arching woolly gray stems in graceful open mounds about 15 inches high. The tip of each branch bears a dense spike or cluster of purple flowers in June and July. A spectacular plant for a conspicuous place in a sunny rock garden or wall garden. This native of the Dakotas requires a well drained, sandy lime soil in full sun. (pH 7-8)

PETROPHYTUM. (Rosaceae, Rose Family)

Petrophytum caespitosum. A very tiny prostrate evergreen shrub with tiny round leaves that make a dense mat about one inch thick. It has small spikes of white fuzz about 2 inches high in June and July. A very choice and rare plant especially suited for tight rock crevices. It requires a gritty lime soil in sun or light shade. (pH 7-8)

PHLOX. (Polemoniaceae, Phlox Family)

Phlox divaricata. (Sweet William Phlox) The common wild blue phlox of our Eastern woodlands and fields. It forms large spreading carpets of evergreen leaves on trailing or ascending stems usually about 4 inches high. Completely covered with lovely clusters of large, fragrant light lavender-blue flowers in May. It makes a wonderful cover in shade or partial shade in a rich, gritty acid soil. (pH 5-6)

Phlox divaricata alba. The rare white flowered variety with light green leaves and big pure white flowers. Very easy in a lightly shaded area.

Phlox nivalis. (Trailing Phlox) A robust trailer that closely resembles the common Mountain Pinks in habit of growth. This is the rarely seen true wild form with very pale shell pink flowers. It blooms much later than the Mountain Pink. Easy to grow in a well drained garden soil in full sun or light shade. (pH 5-8)

Phlox nivalis azure. A new and still extremely rare variety. It has very large, delicate sky blue flowers in April and May and a few throughout the summer. It is not as robust as its parent above, but takes the same soil and exposure.

Phlox nivalis Camla. An extremely vigorous and floriferous variety with large clusters of salmon pink flowers in May. One of the best of the old varieties.

Phlox nivalis Gladwyn. A new, rare and unexcelled variety, originated by Mrs. J. Norman Henry in her Garden at Gladwyn, Pennsylvania. It is a low mat former with large pure white flowers in ample clusters that are produced all through the summer from May to October. Easy to grow in a well drained garden soil in sun or light shade. (pH 5-8) This one and variety azure (another one of Mrs. Henry's introduction) needs winter protection north of New York City.

Phlox nivalis sylvestris. (Dixie Brilliant) A very robust, quickly spreading trailer, with dark emerald green foliage and huge clusters of brilliant red flowers. Each flower is almost 2 inches across, and they are produced in spring and fall.



Courtesy American Rock Garden Society

Phlox nivalis

Phlox ovata. Large mats of big oval leaves about 3 inches high that send up tall erect flower stems from 12 to 18 inches high, bearing large clusters of deep Phlox Purple flowers in May and June. It resembles the big Summer Phloxes on a small scale. Easy to grow in any ordinary garden soil in sun or light shade. (pH 5-8)

Phlox ovate pulchra. A treasure found by Dr. Edgar T. Wherry in the Mountains of Alabama. Neat mats or rosettes of large oval leaves and 12 inch stems holding flat clusters of delicate pastel pink, fragrant flowers in May. It is just as easy to grow as the one above but it needs a light cover in winter.

Phlox procumbens. (Usually listed as *P. amoena*) This charming plant of hybrid origin grows into neat cushions of narrow oval, dark green leaves that are completely hidden by large rounded clusters of bright rosy purple flowers on 6 inch stems in April and May. An easy plant in a well drained garden soil in full sun (pH 6-8)

Phlox procumbens variegata. An extremely rare variety of the above with the same neat habit of growth and the same lovely flowers, but the foliage is striped with yellow to make it a plant of distinction.

Phlox stonifera. A native of Virginia that forms solid evergreen carpets of broad oval leaves on quickly creeping stems about one inch high. It has large clusters of lovely lavender flowers on 6 inch high stems in May and June. It likes an acid loam rich in leafmold in shade or halfshade. (pH 5-6)

Phlox stolonifera Blue Ridge. A new variety of the good ground cover above with very large flowers of a good clear light blue color. One of Mrs. Henry's outstanding introductions that recently won high honors in the flower shows in England.

Phlox stolonifera Lavender Lady. Another outstanding variety with captivating very deep lavender flowers in great quantities. It is a plant no one can resist.

Phlox stolonifera Pink Ridge. One of Mrs. Henry's good varieties with very showy light pink flowers. All of these stolonifera varieties are almost indispensable for the shady or partly shady rock garden because of their very lovely flowers and their attractive creeping carpets of evergreen foliage.

PHLOX SUBULATA. (MOUNTAIN PINK)

Almost every gardener and home owner knows what the Mountain pinks look like. They are seen everywhere with their bright flowers in the spring and are sold by the basketful at every road stand when they are at the height of their bloom. They are easy to grow in almost every soil that is fairly well drained and in a sunny location. They are natural rock plants that love to trail over hot rocks and they are among the best of the wall garden plants. The old common varieties can be obtained almost for the asking in the spring. We do not grow any of them. We have limited ourselves to what we consider some of the best of the named varieties. All those listed below are distinct either in color or habit of growth. They are all easy to grow in a well drained garden soil in full sun or very light shade. (pH 5-8)



Photo by G. G. Nearing

Phlox subulata Schneewittchen

Phlox subulata Alexanders Pink. A vigorous plant that makes quickly spreading evergreen carpets covered with large clear light pink flowers. Each flower has a deep crimson eye.

Phlox subulata Arbutus. A very slow growing, tight cushion type with dense clusters of tiny flowers resembling the Trailing arbutus. A delicate pale pink color.

Phlox subulata Blue Eyes. A big, loose grower with larger clear blue flowers. The petals of the flowers are deeply notched.

Phlox subulata Brittonii Pink. The best and most outstanding variety in the list. It forms a very tight flat mat of tiny prickly evergreen leaves covered with tiny bright pink flowers. Each petal is almost cleft in two.

Phlox subulata G. F. Wilson. A big, fast growing variety with very pale blue flowers, similar to Blue Eyes in growth but the flowers are quite different when they are planted side by side.

Phlox subulata Schneewittchen. This is a Snow Witch if there ever was one. Very dense little mats of whoolly gray green leaves completely covered with myriads of tiny pure white flowers.

Phlox subulata Tiny Tot. This one can be best described as a large Brittoni Pink. It is a fairly fast growing mat of tiny leaves with deeply notched light pink flowers.

Phlox subulata Vivid. This one has long been the favorite of rock gardeners. It is a slow growing cushion type with a multitude of small showy clear pink flowers, each with a bright red eye.



Phlox subulata Vivid

Phlox subulata White Dot. The best of the white varieties. It makes large, broad cushions of evergreen leaves and very large, full petaled pure white flowers.

POLEMONIUM. Jacobs Ladder. (Polemoniaceae, Phlox Family)

Polemonium reptans. An eastern U. S. native species with slowly creeping root stocks that make large attractive foot high clumps of dark green ferny foliage, topped with a shower of lovely light blue flowers in May and June. A handsome and desirable plant that thrives in a rich garden soil in half shade or full sun if the soil is kept moist. (pH 6-8)

POLYGALA. Milkwort. (Polygalaceae, Milkwort Family)

Polygala calcarea. A dainty, slowly creeping evergreen plant from the Swiss alps with tiny oval leaves in close rosettes and clusters of stunning bright blue flowers barely above the foliage in May and June. This very rare alpine requires a well drained gritty lime soil in partial shade or filtered sunlight, (pH 7-8)

Polygala paucifolia. (Gay wings) An eastern American native that creeps underground. Each Stem has only two or three leaves and a cluster of 3 to 4 vivid purple and yellow flowers in May and June. It is a plant for dense shade in a rich acid leaf-mold soil. (pH 4-5) It should be planted under Rhododendrons or Azaleas.

POLYSTICHUM. Holly Fern. (Polypodiaceae, Fern Family)

Polystichum acrostichoides. (Christmas Fern) Our lovely and dependable native of the eastern U. S. woodlands. It has long and graceful dark green fronds from 15 to 24 inches high in attractive evergreen clumps. It likes an acid leafmold soil in shade or half shade. (pH 4-6) Useful in the rock garden and as a foundation plant for the shady side of the house.

Polystichum braunii. (Shield Fern) A rare species from the northern woods. Long, very broad fronds in low, arching clumps. The green fronds are sharp-toothed and covered with brown hair. Easy to grow in a rich acid woodland soil in shade. (pH 4-6)

Polystichum lonchitis. (Mountain Holly Fern) Very attractive large 12 inch high clumps of dark, leathery, glossy green, arching evergreen fronds. It likes a shaded rock crevice in an acid leafmold soil. (pH 4-6) This Rocky Mountain species is like the Christmas Fern, but lower growing and the shape and size of the fronds are variable.

POTENTILLA. Cinquefoil. (Rosaceae, Rose Family)

Potentilla atosanguinea. Probably the most spectacular of the Cinquefoils. Large clumps of silvery leaves about 6 inches high. The leaves resemble those of the Strawberry. Tall arching stems about 23 inches long bearing bright fiery red flowers in June and July. It likes a well drained garden soil in full sun. (pH 6-8) Wonderful as a wall plant or for pockets in hot sunny rocks.

Potentilla flabellifolia. Dense tufts of dark green, deeply toothed leaves about 3 inches high, producing many thin, ascending stems to 6 inches high with airy sprays of vivid yellow flowers in May and June. A native of the Rockies that is excellent for walls and dry sunny rocks. It likes a gritty lime soil in full sun. (pH 7-8)

Potentilla fruticosa. A sturdy shrub from 2 to 3 feet high with deeply cut light green foliage and a continuous display of bright yellow flowers from June to October. If it is left to grow naturally it gets tall and rangy, but can be made to grow into a dense attractive bush by frequent trimmings. Easy to grow in any garden soil in sun or light shade. (pH 6-8)

Potentilla fruticosa pumila. An extremely dwarf variety that eventually reaches a height of 5 to 6 inches in about 6 years. It has very tiny leaves very closely set on its stiff branches. Deep yellow flowers almost continuously from June to October. A plant that will never get out of bounds.

Potentilla fruticosa rigida. Another dwarf form with very rigid, erect branches in a dense slow growing shrub about 8 inches high. Attractive cut-leaf foliage and showy yellow flowers in the summer. Easy and permanent in any ordinary garden soil in sun or light shade. (pH 6-8)

Potentilla fruticosa tenuiloba. A variety with thin, wiry branches about 12 inches high in attractive graceful clumps with very finely lacinated light green leaves. The lovely light yellow flowers in summer make this the prettiest of the group.

Potentilla fruticosa vietchii. Another exceedingly handsome variety that is smaller and much more compact than *P. fruticosa*. It forms neat symmetrical clumps of large, deeply cut leaves on sturdy branches from 18 to 30 inches high. It displays its large pure white flowers from June to October. It is a tall kind that can be trimmed to any size desired. All these varieties of *P. fruticosa* are easy to grow in any ordinary garden soil in full sun or light shade. (pH 6-8)

Potentilla nevadensis. An enchanting little beauty from the sun drenched rocks of Spain. Dense flat tufts about 2 inches high, of palmately parted light green leaves covered with a coat of silvery, silky hairs. Cheery clusters of clear yellow flowers in May and June. It requires a well drained, gritty lime soil in full sun. (pH 7-8)

Potentilla tormentillo-formosa. (*Potentilla tonguei*) A wonderful trailer for hot dry rocks and walls. Large clumps of pretty strawberry leaves about 4 inches high and long trailing stems bearing a continuous avalanche of showy apricot flowers with bright crimson centers from June to October. It thrives in any ordinary garden soil in full sun. (pH 6-8). The long trailing stems do not root down, therefore it is not at all weedy.

Potentilla tridentata. An evergreen shrublet about 6 inches high, forming neat rounded clumps of shiny, dark glossy green, three parted leaves with dainty white flowers held on three inch stems above the foliage in June and July. It spreads rather quickly by underground runners and forms solid carpets of thick emerald green. An eastern U. S. native that is easy to grow in any ordinary garden soil that is not too limy. (pH 5-7)

Potentilla verna nana. A thick, dense cushion of small 3 to 5 parted leaves about 2 inches high, completely covered with a solid sheet of gold in April and May. One of the best and prettiest of the tiny tufted varieties. It is good for rock crevices and dry walls and also for between flags in walks. An easy grower in any ordinary garden soil in full sun. (pH 6-8)

Potentilla villosa. A fast growing species from Alaska that forms neat, thick carpets of woolly gray, velvety leaves about 3 inches high, surmounted with showy clusters of bright yellow flowers in May and June. An excellent rock garden and wall plant. It likes a well drained garden soil in full sun. (pH 6-8)



Primula auricula

PRIMULA, Primrose. (Primulaceae, Primrose Family)

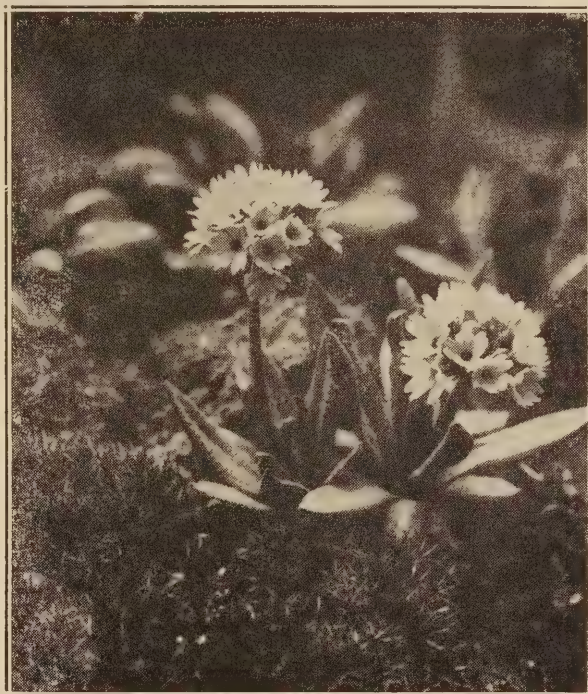
Primula auricula. (Auricula) A charming and very desirable Primrose from the Swiss Alps. It forms attractive clumps of thick evergreen leaves that produce large showy clusters of bright flowers in May and June. The flowers from seedling plants vary from yellow or buff to all shades of pink, purple and even brown. The flowers have a thick velvety appearance. It likes a very rich humus soil that has a good lime content. (pH 6-8) It should be planted in shade or half shade and the soil kept moist in summer.

Primula denticulata. Pretty globular heads of lavender flowers on stout 10 inch stems in early April before the deep green leaves completely unfurl. The leaves make attractive clumps of large leafy rosettes that stay neat all through the summer. This early flowering species from the Himalayas thrives in a moist, peaty, rich acid soil in shade or filtered sunlight. (pH 5-6). Excellent for edges of pools and streams.

Primula japonica. Vivid flowers in shades of red and pink in tiers from May to August on erect stems about 18 inches or more high, springing from neat clumps of light green leaves about 6 inches high. Our plants are grown from seed taken from red flowered plants but the color varies quite a bit. An excellent plant for naturalizing along streams or ponds, in sun if the soil is always moist, or in light shade in dryer places. It requires a rich, peaty, acid moist soil. (pH 5-6). See the picture on the back cover.

Primula juliana Dorothy. A dwarf hybrid primrose that grows into little clumps of small leaves about 3 inches high, gayly adorned with graceful stems about 6 inches high, bearing loose clusters of delicate pale yellow flowers in May. An irresistible beauty that likes a rich acid soil in partial shade or shade. (pH 5-6)

Primula juliana helenae. Little low clumps of dark green wavy leaves about 3 inches high and tiny stems each bearing one large bright red-purple flower in April and May. Two or three stems come from the base of each leaf, making this a very stunning plant. Same soil and exposure as above.



Primula denticulata

Primula juliana Kimlaugh Beauty. Tiny clusters of small leaves just like the one above, but the flowers are a lovely delicate shade of apricot-pink. It likes a rich acid humus soil in shade or semi-shade. (pH 5-6)

Primula juliana Snow White. Attractive leafy rosettes and very large pure white flowers on 2 inch stems in April and May. The best dwarf white primrose there is. It likes a rich acid humus soil in shade or half shade. (pH 5-6)

Primula juliana Wanda. The most well known of the juliana hybrids. Little tufts or rosettes of dark green wavy leaves with beves of rich deep purple flowers in April and May. Color, HCC 732, Dodge Purple. A real rock garden gem. It requires a rich, moist acid soil in shade or semi-shade. (pH 5-6)

Primula polyantha. (Polyanthus) A well known, extremely colorful and easy garden primrose that is seen almost everywhere in spring. It has very large individual flowers in dense umbells on sturdy 8 inch stems held over crisp green leaves in May and June. This is the primrose usually called by such names as Munstead, Monarch, Veris and many others. They are grown from seed and come in all shades of yellow, pink, red, purple, blue and white. It is easy to grow in a rich garden soil that is not too limy in shade or half shade. (pH 5-7) This is perhaps the easiest and most dependable of the Primroses for general garden use.

Primula sieboldii. A beautiful Japanese species that creeps by underground runners, forming large clumps of delicate, crispy wavy rich green leaves that wither away soon after flowering. In May and June it produces huge umbells of soft purple, pink or white flowers, with each individual flower as much as 2 inches across. It requires a light but rich acid loam in a semi-shaded location. (pH 5-6) A fine companion to the polyanthus primroses which bloom at the same time.

Primula vulgaris. (P. aculis) An improved form of the old English cowslip. Neat clumps of light green leaves about 4 inches high with large flowers on very short stems in April and May. Seed grown plants give flowers of all colors and combinations of colors. The usual forms are yellow, white or shades of pink. It is easy to grow in a rich garden soil in shade or semi-shade. (pH 5-7) The soil should be well fortified with peat moss, leafmold or humus.

Primula vulgaris coerulea. A very deep, dark, pure blue variety of this fine plant. This is the plant sometimes listed as Queen of Heaven, however most of them are grown from seed and the color does vary to light blue or purple. It thrives in a good rich garden loam well fortified with humus and manure, in shade or half shade. (pH 5-7)



Photo Courtesy of American Rock Garden Society

Primula polyantha

Primula vulgaris duplex. A variety or perhaps a hybrid plant with neat clumps of fresh green leaves about 5 inches high and tall stems to 8 inches high with heavy umbels of lovely yellow flowers. The flowers are hose-in-hose, or one growing out of another. Same soil and exposure as above.

Primula vulgaris duplex rosina. Exactly the same as the preceding except that the flowers are deep pink or red. Give it rich garden soil in shade or half shade. (pH 5-7)

PRUNELLA. Self-Heal. (Labiatae, Mint Family)

Prunella grandiflora. A large quickly growing evergreen mat of large oval leaves about 3 inches high with huge heavy spikes of showy blue-purple flowers in June and July. An old rock garden subject that is still in favor. It is useful both for its summer flowers and as a limited ground cover both in sun and shade. It is easy to grow in any ordinary garden soil. (pH 6-8) A good wild garden plant.

Prunella grandiflora alba. A pure white flowered form of the preceding with the blooming season extending into August and September.

PTEROCEPHALUS. (Dipsaceae, Teasel Family)

Pteroccephalus parnassi. (Scabiose) From the mountains of Greece comes this rare and beautiful gray leaved plant that forms low spreading masses of deeply cut woolly gray leaves on intricately branched stems about 3 inches high. It is topped with a liberal sprinkling of lilac colored dense flower heads, much like the scabiose. It makes an excellent wall plant or rock garden subject. It requires a deep root run of gritty, well drained lime soil in full sun. (pH 7-8)

PULMONARIA. Lungwort. (Boraginaceae, Borage Family)

Pulmonaria angustifolia. (The same as var., *Azurea*) Low, spreading clumps of long, narrow dark green leaves about 5 inches high. From Late March to May it has stems 8 to 10 inches high, bearing pretty delicate pink buds that open to bright blue trumpets. An old favorite for a shady or semi shady spot in a rich acid loam. (pH 5-6)

Pulmonaria officinalis. Large attractive clumps of dark green leaves spotted and bloched with white. The attractive leaves are an asset to any rock garden in summer and winter. In April and May it has large sprays of deep red flowers that turn to violet-blue. It likes a rich acid loam in shade or half shade. (pH 5-6) It will stand full sun if the soil is kept moist.

***Pulmonaria saccharata* Mrs. Moon.** A spotted leaved species very similar to the preceding, but the white spots are not as clearly defined. A good evergreen plant for a shady rock garden or wild garden in a rich acid loam. (pH 5-6) The attractive flowers are produced on 12 inch stems in April and May and are of a lovely deep salmon pink color.

PYXIDANTHERA. Pyxie Moss. (Diapensiaceae, Diapensia Family)

Pyxidantha barbulata. A tiny creeping shrub that forms large moss-like mats as much as 3 feet in diameter but never more than ½ inch high. Very tiny evergreen leaves entirely covered with myriads of bright pink buds and white flowers in April and May. This beautiful and much coveted treasure of the New Jersey Pine Barrens is difficult to grow without a good deal of attention. It requires a very sandy, very acid moist soil in partial shade or filtered sunlight. (pH 4-5) We grow our plants in a soil made of three parts sharp white sand and one part acid leafmold. The leafmold should be rotted pine, spruce or hemlock needles. Oak leaves will do but it prefers pine.

RAMONDA. (Gesneriaceae, African Violet Family)

Ramonda pryrenais. A rare plant to test the skill of the best of gardeners. It makes rather large rosettes or clumps of deeply toothed, hairy green leaves and 3 to 4 inch stems bearing lovely lilac colored flowers in May. It requires an acid leafmold soil in a rock crevice. It will not grow in an open bed. The crevice should be almost perpendicular and preferably with an overhanging rock above. (pH 5-6) The flowers of this captivating plant resemble the African Violet.

RANUNCULUS. Buttercup. (Ranunculaceae, Buttercup Family)

Ranunculus crenatus. A charming little mountain buttercup that forms neat flat rosettes of dark, glossy green, wavy, toothed leaves. Large white cups on 3 inch stems in early April and again in late Fall. A dainty European that requires a gritty acid soil in sun or light shade. It is rare and a very slow grower. (pH 5-6)

Ranunculus montanus. A showy, easily grown alpine buttercup with creeping root stocks that form neat spreading mats of deeply cut dark green leaves about 2 inches high, with showy large yellow flowers on 3 inch stems in May and June and again in fall. It likes a rich but gritty acid loam in sun or light shade. (pH 5-6)

Ranunculus repens pleniflorus. A weed but sometime considered desirable and useful. It makes a quickly spreading mat of large, three parted leaves on creeping stems about 5 inches high and masses of very pretty fully double bright yellow flowers from April to July. It is useful as a ground cover away from more desirable plants, in out of the way places. It will grow in any garden soil in sun or half shade. (pH 6-8)

RHEXIA. Meadow Beauty. (Melastomaceae, Melastoma Family)

Rhexia virginica. Neat clumps of small oval leaves on square stems about 10 inches high and a colorful array of vivid rosy purple flowers with prominent yellow anthers from July to September. A native of New Jersey that is easy to grow in a slightly acid rich garden soil in full sun or light shade. It is good for naturalizing along streams and at the edges of pools or in the wild garden. It is native to wet bogs and meadows but it stays more compact and smaller in a dry soil. (pH 5-7)

RHODODENDRON. (Ericaceae, Heath Family)

The Rhododendrons, including those usually called Azaleas, listed below are low, slow growing or spreading kinds and are well adapted to the rock garden. All will stand full sun as well as light shade and all require a sandy or peaty acid leafmold soil. (pH 4-6) This is by no means a comprehensive list of Rhododendrons. There are many more in nature and available in the trade but we have not yet tried them and other that we have tried have been eliminated because of being too tender for a list of hardy plants.

Rhododendron impeditum. A very dwarf, compact bush about 18 inches high at maturity. This rare species from China has tiny oval evergreen leaves on short stiff branches and clusters of little lavender flowers in May. Color HCC 637, Sea Lavender Violet.

Rhododendron indicum balsaminaeflora. (Azalea) A compact, slow growing, spreading dwarf Azalea about 12 inches high, gayly adorned with large fully double rose flowers in late May and June. Color, HCC 620/1, Porcelain Rose. This is about the prettiest azalea for the rock garden but it needs winter protection north of New York City.

Rhododendron indicum hakitishiro. An extremely dwarf or prostrate Azalea that forms low, dense plant about 5 inches high with very large single pure white flowers in May. Another rather tender variety that needs winter protection. It is dependable in sheltered places.

Rhododendron June Dawn. An evergreen hybrid Azalea with small hairy leaves on a compact twiggy shrub up to 3 feet high. It can be trimmed to any desired height. The very large bright pink flowers are produced late in June, making this a very desirable addition to the rock garden. It is perfectly hardy anywhere.



Courtesy of American Rock Garden Society

Rhododendron Balsaminaeflora

Rhododendron keiskei. A rather large, loose growing shrub with decumbent branches, and large delicate lemon yellow flowers in spring. An evergreen Rhododendron that is not too large for the rock garden either as an accent plant or for back ground.

Rhododendron letevirens. A tall compact evergreen from 2 to 3 feet high with shining green leaves that look like those of the Mountain Laurel. White flowers in large clusters in May. This is a rare and lovely hybrid useful as back ground in the rock garden.

Rhododendron mucronatum. A tall upright evergreen Azalea with small scaly green leaves and very large fragrant white flowers in May. It grows to about 4 feet high but can be sheared to any desired height. A rare species from China that has a place in every garden or foundation planting.

Rhododendron myrtifolium. A very dwarf and compact slow growing evergreen with small, pointed leathery leaves and clusters of light pink flowers. A very desirable rare hybrid in perfect rock garden size.

Rhododendron obtusum Hinodigeri. The well known and lovable Flame Azalea. Dense, compact growth with dark glossy green evergreen leaves and multitudes of bright red flowers in late April and May. It slowly reaches a height of 3 or 4 feet but should be trimmed frequently to keep it dwarf.

Rhododendron obtusum Hino-Crimson. A new improved form of the preceeding with bright crimson flowers that hold their color until they fall. A good all around evergreen shrub for the rock garden.



Photo by G. G. Nearing

Rhododendron racemosum G. G. Nearing

Rhododendron obtusum japonicum. An extremely dwarf and very slow growing evergreen Azalea made especially for rock gardens. Short twiggy growth with shiny green leaves from 4 to 10 inches high and covered with lovely lavender-pink flowers in late April and May. We had a plant over 30 years old only 10 inches high and more than 2 feet across. The color of the flowers varies with exposure and soil acidity.

Rhododendron racemosum G. G. Nearing. A very dwarf and stiff woody variety of this Chinese species. Small leathery evergreen leaves on short branches and showy clusters of light pink flowers in April and May. This dwarf and desirable rock garden variety was developed over a period of years by the well known Rhododendron expert Mr. Guy G. Nearing of Ramsey, New Jersey. This variety is thoroughly hardy.

Rhododendron Ramapo. A new and outstanding dwarf hybrid Rhododendron developed by Mr. G. G. Nearing. It has stiff, twiggy growth and small leathery evergreen leaves in a neat rounded bush from 8 to 12 inches high with large clusters of bright pink flowers in spring. A perfect plant for the rock garden that is still very scarce and almost unobtainable. There is a waiting list for this gem with every grower known to have it.

Rhododendron yedoense. A large, graceful plant with long narrow semi-evergreen leaves on thin branches in a well rounded shrub about 3 feet high. It has lovely, very large light purple double flowers in May. Useful as a rock garden or foundation shrub. This is the azalea usually called Yodogawa or Poukhanense. It is a thoroughly hardy native of Korea.



Courtesy American Rock Garden Society

Rosa chinensis minima

ROSA. (Rosaceae, Rose Family)

Rosa chinensis minima. (Rosa Rouletti) A dainty little miniature rose, only about 8 inches high, that is a real treasure in every rock garden. Attractive, compact to foliage and a continuous display or perfect little double roses of a lovely clear pink color. Very attractive planted singly or in groups in the rock garden or as an edging for taller plants and shrubs. It thrives in any good garden soil in full sun. (pH 6-8) Winter protection in the far north is recommended.

Rosa Oakington Ruby. Another lovely dwarf rose. It is a little taller than the preceding hardier and the tiny double roses are deep pink or red. It is easy to grow in full sun in a good garden soil and produces quantities of flowers all through the summer.

Rosa Pom-Pom de Paris. A thoroughly hardy newer variety that is intermediate in the height to the two foregoing Fairies. It has dainty, long pointed buds and true rose pink double roses in a continuous display from late May to October. Easy and permanent in a rich garden soil in full sun. (pH 6-8) These dwarf roses don't seem to be bothered with all the bugs and diseases of the big roses.

SALIX. Willow. (Salicaceae, Willow Family)

Salix uva-ursi. (Bearberry Willow) A very dwarf willow only about 2 inches high. It forms pretty little rounded mounds of thick, prostrate branches covered with tiny oval leaves about $\frac{1}{4}$ inch long. An exotic little tree from the high mountain of arctic Canada. It requires a gritty, well drained acid leafmold soil in sun or very light shade. (pH 5-6) A curiosity that will interest everyone. It is very rare in cultivation.

SANGUINARIA. Bloodroot. (Papaveraceae, Poppy Family)

Sanguinaria canadensis. Large, multi-petaled white flowers in early April on 6 inch stems before the huge, deeply lobed gray-green leaves appear. The best effect is produced when the plants are massed in large groups in the wild garden or the shady section of the rock garden. It is native to the Eastern U. S. in rich woodlands. It likes a leafmold soil that is either acid or alkaline in a shady or semi-shady place. (pH 6-8)

Sanguinaria canadensis multiplex. Just like the preceeding except that the flowers are fully double, making this one of the prettiest of our native woodlanders. Very rare.

SANTOLINA. Lavender Cotton. (Compositae. Daisy Family)

Santolina chamaecyparissus. (Santolina incana) Striking 12 inch high symmetrical, compact clumps of finely cut, woolly gray leaves that are very aromatic when bruised. It has small, pale yellow button flowers on 12 inch stems in June and July. A fine evergreen foliage plant for dry walls and dry sunny places in the rock garden or for edging. It comes from southern Europe, is thoroughly hardy and thrives in any garden soil in full sun. (pH 6-8) It should be sheared severely once or twice a year to keep it compact.

Santolina virens. Another fine foliage plant surmounted with little yellow button flowers in June and July. Very simiar to the above, but the foliage is a lively, fresh green color. It is evergreen and thrives in walls and other dry sunny places. Give it the same treatment as above.

SAPONARIA. Soapwort. (Caryophyllaceae. Pink Family)

Saponaria caespitosa. A two inch high tuft of little, fleshy, sharp pointed evergreen leaves, superimposed with huge bright pink flowers one inch long in May. A charming little rock plant from the Pyrenees that requires a gritty, well drained lime soil in ful sun. A difficut and rare plant that should be planted in a rock crevice. (pH 7-8)



Saponaria ocymoides in a wall

Saponaria ocymoides. An old favorite for the rock garden and dry wall. It must be cut back severely after flowering to keep it neat and compact. It has long trailing stems as much as 18 inches long but only 3 inches high with little oval leaves and showy loose sprays of bright pink flowers from May to August. Valued for its long summer blooming period. It likes a gritty, well drained soil in full sun. (pH 6-8)

Saponaria pumilio. Another difficult alpine treasure that has proved to be a trial for the best of gardeners. It is a tiny mat of closely set, thick glossy green leaves only half an inch high, studded with very large bright pink flowers in June. It requires scree culture or a gritty, very well drained lime soil in full sun. (pH 7-8) Difficult and rare.

SARCOCOCCA. (Buxaceae, Boxwood Family)

Sarcococca hookeriana humilis. A handsome creeping long leaved evergreen shrub from the Himalayas that is useful as a ground cover in shade and under Rhododendrons. It creeps by underground runners with from 8 to 10 inch high upright stems with long narrow dark evergreen leaves. It likes a rich, peaty acid leafmold soil in shade. It requires winter protection north of New York City. (pH 4-6)

SATUREJA. Savory. (Labiatae, Mint Family)

Satureja calamintha. (Calamintha alpine) (Calamint) A fine prostrate creeper for walks and terraces. It has long creeping stems with very aromatic leaves about 2 inches high and showy sprays of little purple flowers on ascending stems to 6 inches high. It is usually in bloom from May to August. A European species that is easy to grow in any ordinary garden soil in sun or light shade. (pH 6-8)

Satureja glabella. A very strongly scented little creeping mite with tiny evergreen leaves on red creeping stems only $\frac{1}{4}$ inch high. It has very showy purple bells dangling from upright stems about 3 inches high. One of the prettiest and most interesting plants in the list. A native of Kentucky that likes a gritty leafmold soil in light shade. (pH 6-8) It is excellent for paths and terraces.

Satureja montana. (Winter Savory) An attractive, compact little leaved shrub about 15 inches high with aromatic evergreen foliage, suffused with quantities of small lilac flowers in July and August. A perfectly hardy shrub from Europe and Africa that is easy to grow in any ordinary garden soil in full sun. (pH 6-8) A lovely wall plant. This is the Winter Savory used for flavoring meats and sauces.

Satureja montana pygmaea. A dwarf, more compact form of the preceding about 6 inches high with light green foliage and pure white flowers in profusion. Same treatment as above.

Satureja montana subspicata. A very tiny, dwarf, compact, form of the useful Winter savory. It looks like a prickly ball of dark green awl-shaped leaves about 3 inches high, topped with short, stiff spikes of large lavender flowers in August and September. The prettiest and rarest of the three. It wants a well drained garden soil in full sun. (pH 6-8)

SAXIFRAGA. Rockfoil.

ENCRUSTED SECTION

These encrusted saxifrages are among the most beautiful of all rock plants. They have thick, stiff leathery leaves in tight evergreen rosettes heavily coated with white lime on the edges of the leaves. It is a real delight to see a well grown colony of these lovely alpines nestled in a fissure of a rock, where they look as though the Master Sculptor had cut them from the mother element. All the species in this group have sturdy, erect flower stems of varying heights with flowers in heads or in clusters along the stems.



Saxifraga Macnabiana

These arctic or high alpine plants are difficult to grow in hot climates. In cold climates the cultural directions must be followed closely. They must have excellent drainage. Although they require lots of moisture they will not tolerate stagnant water at their roots. The best place to plant them is in a crack or crevice in an elevated rock with a north or northeast exposure, or at least shaded from the noon sun. They will not stand our full hot summer sun. They require a soil made up of 3 parts chipped limestone or mortar rubble, one part light garden loam and one part leafmold.

Saxifraga aizoon. The wild species from the Arctic Circle. It is a fast grower with wide, saw-toothed leaves and 12 inch flower stems with creamy white flowers spotted with purple in late April and May.

Saxifraga aizoon baldensis. Smallest rosettes of the group, never more than $\frac{1}{4}$ inch across. It makes solid little sheets of ashy-gray leaves and 3 inch stems with white flowers in May.

Saxifraga aizoon rosea. As large and as easy as aizoon but with darker leaves, dark red flower stems 12 inches high and bright pink flowers in May.

Saxifraga cartilaginea. Little round leaf rosettes of a fresh light green color and a profusion of white flowers on 8 inch stems in early May.

Saxifraga cochlearis longifolia. Dense rosettes of long, spoon shaped leaves and flower stems from 8 to 12 inches high with large white flowers in May.

Saxifraga crustata. A distinctive type with very long narrow leaves about 2 inches long in dense tufts rather than rosettes. 12 inch stems with white flowers marked purple at the base.

Saxifraga lagaveana. A very neat kind with rosettes like tight little balls and 8 inch stems with waxy white flowers. A very pretty variety.

Saxifraga lingulata suberba. One of the best flowering saxifrages with pure white flowers in large open sprays on stems from 12 to 18 inches high over large rosettes of long, narrow arching leaves.

Saxifraga macnabiana. The easiest and best of the encrusted saxifrages for the general rock garden. Very large rosettes of broad incurved leaves and tall flower stems from 12 to 24 inches high with quantities of large white flowers spotted with crimson.

KABSCHIA SECTION

These are very different from the encrusted species although some of them have lime encrustations on the leaves. They form tight cushions of tiny spiny leaves or slowly spreading mats of trailing stems covered with prickly awl-shaped evergreen leaves and large flowers, produced in April and May, are carried on thin stems from one to three inches high. In order to grow these spiny gems successfully they must be given the same soil and exposure as the encrusted group. Good drainage is absolutely essential.

Saxifraga apiculata alba. A fast growing mat of light green pin-point leaves and large white flowers in March. One of the first to bloom in spring.

Saxifraga boeckelerii. A very rare hybrid that forms tight cushions of tiny gray rosettes topped with vivid orange-yellow flowers in late March.

Saxifraga burseriana major. A fine pin-cushion of tiny gray leaves with comparatively huge pure white flowers on thin red stems in April.

Saxifraga Faldonside. A tight cushion of small spiny rosettes and large, frilled, lemon yellow flowers on red stems in April. A very rare hybrid.

Saxifraga grisebachii. Pretty dot encrusted rosettes. The 3 inch fuzzy red stems and deep crimson flowers make a striking display against a late snow.

Saxifraga haagii. A thin mat of very pale green spiny leaves and large golden yellow flowers on 3 inch stems in April. Another very rare hybrid.

- Saxifraga irvingi.** One of the prettiest and most floriferous of the group. Very tight cushions of tiny pin-point gray leaves adorned with large clear pink flowers dangling on red stems in March and April. About the easiest of the Kabschias to grow.
- Saxifraga marginata.** Dense little rosettes encrusted with lime. Showy clusters of white flowers on purple-black stems in June.
- Saxifraga sancta.** A bright emerald green mat of spiny leaves with a profusion of vivid orange-yellow flowers on 2 inch stems in April. Another "easy" one.



Courtesy of American Rock Garden Society

Saxifraga burseriana major

MOSSY SECTION

The Mossy Saxifragas make broad creeping mats of dark green, finely cut evergreen leaves that look like heavy clumps of moss. They are about the easiest of the alpine saxifragas to grow in low altitudes. They require a very gritty or sandy, very well drained lime soil rich in leafmold or humus. (pH 7-8) They love to grow between rocks in a northern exposure or under the shade of tall trees, where the soil will remain moist and cool. The large cup-shaped flowers in colors of white, pink and red are born in profusion on stems from 6 to 12 inches high in May and June.

Saxifraga decipiens. A fast growing kind with very finely cut leaves and large pure white flowers. Easy and usually dependable.

Saxifraga decipiens Queen of Belgians. Lovely dark green mats with bright crimson flowers on graceful red stems. The flowers fade in bright sunlight.

Saxifraga desipiens Sir Douglas Haig. The very dark blood red flowers make this one of the best of the Mossies.

Saxifraga moschata Pompadour. Large scarlet flowers in a brilliant array over very attractive mossy foliage.

Saxifraga trifurcata. Large rounded mounds of lovely staghorn leaves and quantities of lovely milk white flowers. Easy and dependable.

MISCELLANEOUS SECTION

This section is made up of various groups of species too few to list separately. They have different habits of growth and different soil requirements, noted in each description. Most of these are much easier to maintain than the arctic or high alpine species.

Saxifraga Andrewsii. Beautiful large rosettes of long and narrow pale green leaves with some encrustation. Airy sprays of small white flowers with crimson dots on 12 to 15 inch stems in May. This hybrid likes an acid loam well fortified with leafmold in a cool shady place. (pH 5-6)

Saxifraga cuneifolia. Broad clumps of leathery dark green leaves with scalloped edges, in attractive rosettes. Fine misty sprays of tiny white flowers in May. It likes a moist acid leafmold soil in shade. (pH 5-6)

Saxifraga geum. Beautiful compact rosettes of very dark evergreen, nearly round, toothed leathery leaves on long petioles. A lovely foliage plant of distinctive noble characters. This native of Newfoundland has airy plumes of white flowers on 10 inch stems in May. It likes a moist acid leafmold soil in shade or semi-shade. (pH 5-6)

Saxifraga sarmentosa. This plant is commonly grown as a house plant called Strawberry-Begonia or Mother-Of-Thousands, but it is perfectly hardy and an excellent subject for the rock garden or wall garden. It is a creeper that forms evergreen mats of nicely variegated green and white leaves about 3 inches high. It produces charming sprays of white and pink flowers in sprays from 6 to 12 inches high in June. Excellent as a ground cover in a shady, moist place in acid soil. (pH 4-6)

Saxifraga tennesseensis. Broad flat mats of large, dull green leathery leaves about 2 inches or less high and sturdy stems from 3 to 6 inches high with dense clusters of little white flowers in April. It loves to grow on rocks with a bit of leafmold for food, either in sun or shade, acid or alkaline. (pH 5-8)

Saxifraga umbrosa. (London Pride) Large leafy rosettes of thick, leathery leaves about 3 or 4 inches high, topped with airy sprays of little pink flowers on 10 inch stems from May to July. A fast growing mat forming species from Europe that likes a moist, rich acid soil in shade or semi-shade. (pH 4-6) A common dooryard plant in England.

Saxifraga umbrosa primuloides. Similar to the preceding on a small scale. Neat mats of small leathery leaves in rosettes and little pink flowers on dark red 8 inch stems in late spring. Same soil and exposure as above.

SCABIOSA. Pincushion. (Dipsaceae, Teasel Family)

Scabiosa scabra. A dwarf perennial scabiose with attractive low clumps of evergreen leaves about 3 inches high. It has tall branching flower stems from 6 to 12 inches high and just as wide. A pleasing display of pretty lavender pincushions in May and June. About the best of the Scabiosas for the rock garden. It is easy to grow in any ordinary garden soil in full sun. (pH 6-8). It makes a very nice wall plant.

SCHIVERECKIA. (Cruciferae, Mustard Family)

Schivereckia bornmuellerii. A very pretty plant with an unwieldy name. It forms an attractive mound of small gray green leaves about 3 inches high and dense sprays of white flowers in April and May. It looks like a dwarf white flowered Alyssum. Easy to grow in a well drained garden soil in full sun. (pH 6-8) It is fine for dry walls and hot, dry rock crevices.

SCILLA. Squill. (Liliaceae, Lily Family)

Scilla chinensis. This is the rare and lovely pink flowered fall blooming Chinese Squill. It consists of little clumps of thin grassy leaves and 12 inch high spikes of fuzzy pink flowers in August and September. Easy to grow in any garden soil in sun or light shade. A rare bulbous plant that is not usually found in bulb growers lists.

SEDUM. Stonecrop. (Crassulaceae, Orpine Family)

To many people a Sedum is a bad weed that overruns the whole garden, killing all the little plants it encircles, and with all the weeding in the world it cannot be eliminated. Unfortunately there are a few kinds that fall in this category. We have omitted the undesirables and the worst offenders from this list. The majority of the sedums described here are either clump formers or tufted ones that stay where you put them. A few of the creepers have been included because of their usefulness. Special note is made of the ones you have to watch.

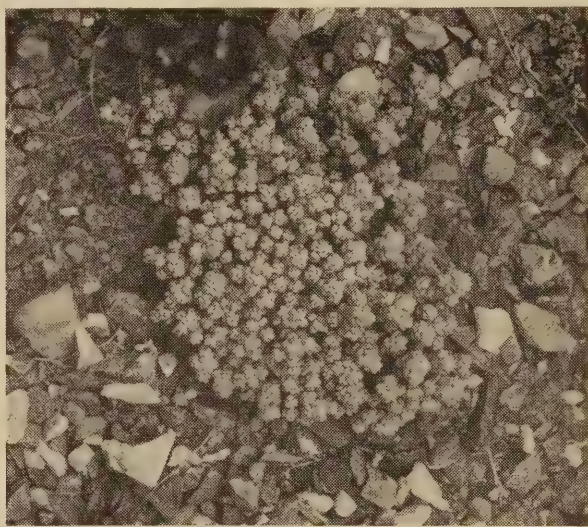
All the Sedums in this list (with only a few exceptions) are easy to grow in any ordinary garden soil in full sun or very light shade. Most will grow in any soil available and all make perfect wall plants. In the descriptions we have included the cultural directions for only the difficult ones or the ones that require special consideration. All

the others will grow almost anywhere without care or attention. Despite their meager needs they are all very worthwhile and desirable additions to every rock garden. In fact a garden would be incomplete without a good collection of sedums.

Sedum acre. This first of the list is the weediest we grow. It makes attractive mats of tiny evergreen leaves on quickly spreading stems about 2 inches high. In May and June it is completely covered with masses of light yellow flowers. Color, HCC 602, Mimosa Yellow. It is useful for covering bare ground in out of the way places.

Sedum acre minor. An extremely dwarf and slow growing form of the preceeding. It makes very dense mats of tiny dark green leaves only about one inch high, with bright yellow flowers in spring. This is an acre that behaves itself.

Sedum album murale. An improved form of this well known plant. A fast spreader with dark reddish-green tiny cylindrical leaves on creeping stems about 3 inches high. In winter the foliage turns deep purple. It has very attractive white flowers in airy sprays in June and July. Plant it in a wall where it cannot spread out of bounds.



Sedum dasyphyllum glanduliferum

Sedum cauciculum. A deciduous clump forming dwarf species from Japan. It has thick upright stems about 5 inches or less high with very thick blue leaves, topped with dense clusters of vivid deep red flowers in September and October. This is my favorite and one of the best and most desirable in any list. It has the habit of siebaldii, but dwarfer and more compact. It is lovely in open beds, walls or rock crevices.

Sedum dasyphyllum glanduliferum. A very slow spreading mass of tiny ovoid gray leaves about half an inch high, completely covered with starry pale pink flowers on one inch stems in May. A native of Europe and North Africa but thoroughly hardy and evergreen. It loves tight rock crevices.

Sedum ewersii. A mat of twisted brown branches and large blue-gray leaves, set with showy pink flowers in August and September. An interesting and slow growing subject for the rock garden or dry wall.

Sedum ewersii homophyllum. A one inch thick mat of prostrate, twisted brown stems, studded with tiny blue leaves. A very dwarf, slow spreader from Mongolia, with tiny deep pink flowers in August and September. A rarity prized by lovers of fine plants.

Sedum gracile. An attractive, very fine leafed evergreen cushion about 2 inches high. It is blanketed with hundreds of tiny white flowers in May and June. It is a quickly spreading plant on the order of *S. acre*, but much more graceful and refined.

Sedum gypsicolum. An interesting, odd and rare species from Spain. It makes mats of thick, brown decumbent stems with the ends upright to 6 inches high, with tiny cylindrical evergreen leaves. Large airy sprays of white flowers in July.

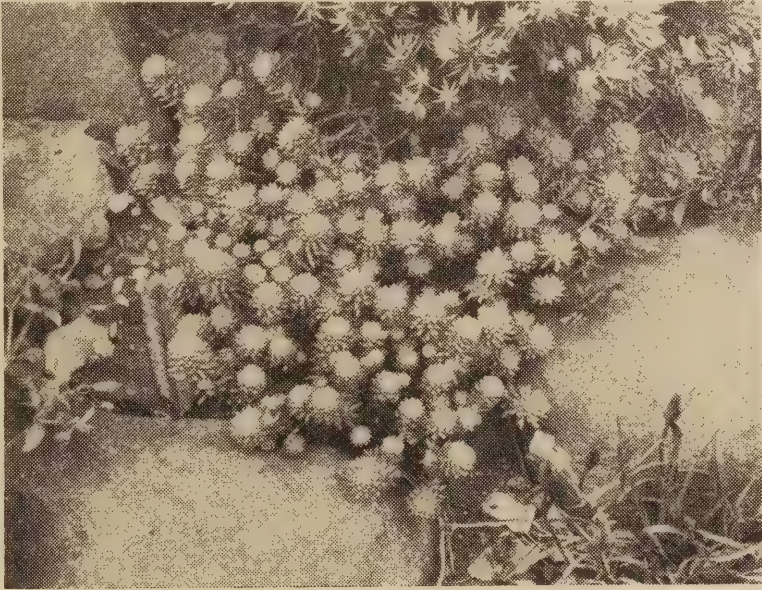
Sedum kamtschaticum. Valued for its brilliant show of vivid yellow flowers in July and August. A hardy Siberian species that forms low broad clumps of large, light green leaves on decumbent stems about 4 inches high. A good ground cover and a perfect wall plant.

Sedum kamtschaticum floriferum. A smaller form of the preceding with smaller leaves and a marvelous display of bright yellow stars from late May to August. The colorful flowers are followed by bright red seed pods when the plants are in a hot, dry place.

Sedum kamtschaticum variegatum. A pretty form with the leaves variegated with green, yellow and pink. It seems to be a rather weak strain that needs constant watching and rejuvenation. The attractive leaves are well worth the effort.

Sedum middendorffianum. A beautiful symmetrical clump about 8 inches high with erect stems covered with dark green, long narrow, deeply toothed leaves. It gives the appearance of a dark green *Iberis Sempervirens*. A Manchurian species that is a shy bloomer, occasionally showing its pretty yellow stars in July.

Sedum nevii. A pretty little plant that makes neat tufts of closely set pinkish-gray leaves about 2 inches high, topped with very pale pink or white flowers in June. A charming plant from the mountains of Virginia for a choice spot in sun or half shade. One of the most attractive sedums in any list.

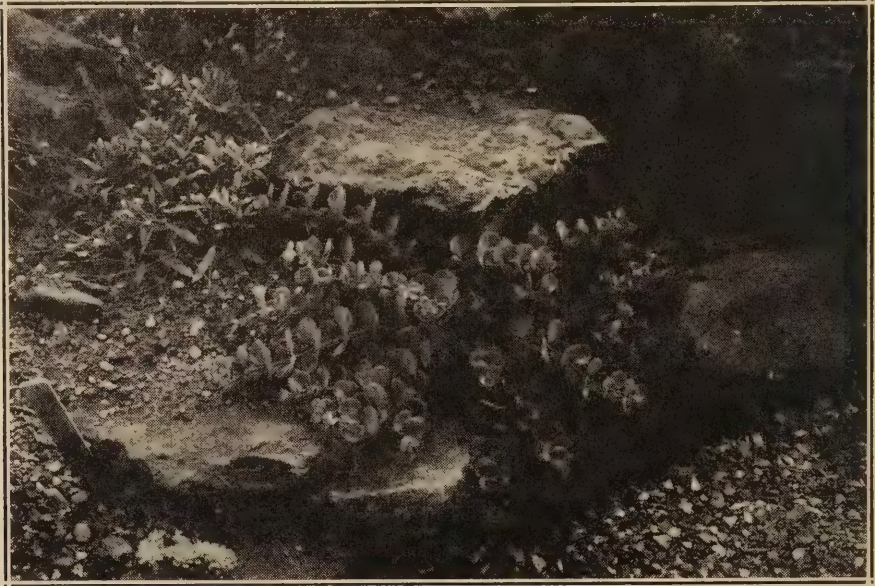


Sedum pruinaum

Sedum populifolium. The only shrubby sedum that is hardy in the North. Stout woody branches clothed with large dark green fleshy leaves shaped like those of the Poplar trees. It grows into a rounded bush from 12 to 18 inches high and as much as 3 feet across with attractive sprays of little white stars in June and July. A rare and lovely plant for the rock garden or wall garden.

Sedum pruinaum. Usually listed as *S. fosterianum*, which is apparently incorrect. It is a fast growing mat of blue-gray leaves clustered on trailing stems that resemble club moss. Large clusters of yellow flowers on 8 inch stems in May and June. The foliage turns a pleasing shade of purple in winter.

Sedum sieboldii. An old favorite for the rock garden. Beautiful clumps about 6 inches high, with gracefully arching stems clothed in gray leaves with conspicuous red edges. Large showy clusters of brilliant pink flowers in September and October. This Japanese species is truly one of the finest rock plants in the list. It is fine for dry walls and hot, dry rock crevices.



Sedum sieboldii

Sedum spathulifolium. A beautiful species from the Rock Mountains with long spoon shaped mealy gray leaves in tight rosettes that form slowly spreading evergreen mats about two inches high. Very showy bright yellow flowers on 3 inch stems in June. It is native to the woodlands of the far West but if it is planted in sun it stays more compact and the leaves take on a pinkish hue. It likes a gritty, light soil in sun or half shade. (pH 5-8)

Sedum spathulifolium Cape Blanco. A very dwarf form of the above like a gnarled, compact shrub about 2 inches high with thick stems crowded with powdery white little rosettes. Vivid yellow flowers in June. This one also turns red and stays more compact in full sun.

Sedum spectabile Brilliant. A good, improved color form of the big Live-Forever that is seen almost everywhere. Large thick leaves on stout 12 to 15 inch high stems in large clumps, topped with huge clusters of bright pink flowers from late August to October.

Sedum spectabile variegatum. A nicely variegated green and yellow form of this easy sedum. It has large clusters of very pale pink flowers. I recommend cutting it back before it blooms to keep it as a foliage plant.

Sedum spurium Dragon's Blood. One of the most colorful sedums we have. It is a quickly spreading mat of flat reddish leaves and large clusters of beautiful blood red stars in July and August. The leaves take on a very dark red color in winter. It is very colorful all through the year.

Sedum subulatum. This plant is usually listed as *S. nicaeense* but it definitely is not the *S. sediforme* referred to in Hortus II. A very attractive mound of gray-green terete sharply pointed leaves about 3 inches high. It has dense clusters of yellow flowers in June and July. Regardless of the name it is a very worthwhile plant.

Sedum tatarinowii. A very rare and dainty clump forming sedum much on the order of *S. sieboldii* but on a very small scale. It has thin upright stems to 6 inches high with small dentate gray or pinkish leaves. Each stem is terminated with a cluster of pale pink flowers in July and August. It likes to grow in dry walls and dry rock crevices.

SEMPERVIVUM. Houseleek, (Crassulaceae, Orpine Family)

This family is especially useful for dry walls and tight fissures in exposed rocks, for they are all neat cushions or mats of tight little rosettes that can live with hardly any soil or moisture. This does not mean they can be left on top of a hot dry rock and be expected to flourish. They must be planted, but very little soil in shallow cracks or crevices is enough for their meager requirements. They can also be planted directly in open beds in any ordinary garden soil. (pH 6-8) They take full sun or light shade in a well drained place. These are about the easiest of plants to grow. Once they are placed they can be expected to grow and flourish for years to come. They are thoroughly hardy and can withstand any amount of draught.

The names of species, varieties and hybrids are so jumbled up that we have made no effort to unscramble them. If the experts cannot do it, nor can we. All those listed here are quite distinct from each other and all are charming little rosetted plants to dress up the rocks in your garden.



Courtesy of American Rock Garden Society

Sempervivums in variety

- Sempervivum arachnoideum.*** (Cobweb Houseleek) This is the most outstanding and the most popular of all. Slow spreading carpets of tight little rosettes covered with fine, silky, white wool. It has showy clear pink flowers on 6 inch stems in July.
- Sempervivum arachnoideum minor.*** A very minute form of the above beauty. The tiny white woolly rosettes are never more than $\frac{1}{4}$ inch in diameter in tight little cushions. Because of its size it is quite rare.
- Sempervivum beta.*** A good hybrid with rosettes about one inch across of sharply pointed red leaves. The leaves are outlined with long lashes. Very good winter color. Usually it turns green in the growing season.
- Sempervivum calcareum.*** Large rosettes about 2 inches across, with attractive gray leaves tipped with brown. A slow growing cushion former.
- Sempervivum fimbriatum.*** Spreading cushions of closely set little rosettes of light green leaves fringed with short white hairs. Clusters of bright red flowers on 8 inch stems.
- Sempervivum globiferum.*** Attractive long, pointed dark green leaves in rosettes like tight round balls. It has light straw colored flowers in June and July. The rosettes take on a good mahogany color in winter. The new little rosettes are formed on thread like stems that are detached at the slightest touch.
- Sempervivum hausmannii.*** An extremely rare hybrid with lovely globular, soft velvety gray rosettes about $1\frac{1}{2}$ inches across. Yellow flowers in July. A very slow growing kind.

Sempervivum heuffellii. The true type from the mountains of Transylvania. The slowest growing species with tight reddish-brown rosettes, each leaf ending in a sharp point. It usually has one rosette that increases in size each year seldom producing off-sets.

Sempervivum hookerii. Very compact little mounds of tiny rosettes with green leaves tipped with brown. Each rosette is barely $\frac{1}{2}$ an inch in diameter. It resembles the cobwebby one without the white wool.

Sempervivum Mayfair. A cross between *S. arachnoideum* and *S. pittonii*. Small gray-green rosettes with tufts of brown hair at the tip of each leaf. It forms quickly spreading sheets rather than mounds or clusters.

Sempervivum montanum. Long and narrow, sharply pointed upturned leaves in tight ball-like rosettes, very much like *S. globiferum*. Large clusters of vivid red flowers in June. The new rosettes roll off the mother plants to form new colonies.

Sempervivum pittonii. Soft velvety light gray rosettes, each leaf is tipped with dark brown points. Very rare and one of the most attractive to be found anywhere. Pale yellow flowers on 6 inch stems in June and July.



Sempervivum arachnoideum

Sempervivum rubicondum. Neat rosettes of short and broad pointed leaves tinted with bright red through most of the year. One of the most colorful varieties even without the pink flowers.

Sempervivum ruthenicum. A rare and lovely species with large rosettes up to 3 inches in diameter. The purple leaves are covered with soft, velvety, gray wool, giving it a delicate two-toned aspect.

Sempervivum tectorum. (Hens-And-Chicks) This is the ordinary common variety seen in almost every garden. It has very large rosettes sometimes as much as 5 inches across. The leaves are dark green, usually edged and tipped with brown or dark red. A useful plant that should not be overlooked.

Sempervivum tectorum violaceum. Very large rosettes, even bigger than the preceding. The large leaves are a pleasing glaucous-green with the inner side painted with violet. Both of these large kinds have huge clusters of pink flowers on foot high stems in July.

Sempervivum triste. Medium sized rosettes about one and a half inches across. It has short, sharply pointed leaves and it holds its dark red color all through the year. Red flowers on 8 inch stems in June and July.

SENECIO. Groundsel. (Compositae, Daisy Family)

Senecio obovatus grandiflorus. Attractive evergreen rosettes of deep green, long oval, wavy leaves lying flat on the ground. Erect 15 inch stems bearing loose clusters of large brilliant yellow daisies in June. The individual flowers are larger than the typical form and the petals are not reflexed. This fine plant was found by Dr. Edgar T. Wherry on a shaded hillside in Pennsylvania. It requires a well drained soil, either acid or alkaline in shade or half shade. (pH 5-8)

SERRATULA. (Compositae, Daisy Family)

Serratula shawii. Beautiful 4 inch high clumps of deeply cut ferny foliage of a nice soft green color. In September it sends up many erect stems from 6 to 12 inches bearing feathery, lavender-purple flowers. It looks like a dwarf spineless thistle. An extremely rare plant that is easy to grow in any ordinary garden soil in full sun or very light shade. (pH 6-8) Very valuable for its pretty late summer blooms.

SHORTIA. Oconee Bells. (Diapensiaceae, Diapensia Family)

Shortia galacifolia. One of the loveliest of our eastern United States native woodland plants. Beautiful 4 inch high clumps of dark glossy green, leathery leaves that turn a brilliant red color in fall. It is topped with an abundance of arge, pure white fringed bells on 6 inch stems in April and May. It creeps slowly by runners and can be used as a ground cover in a rich, acid leafmold soil in shade or half shade. (pH 4-6)

Shortia uniflora grandiflora. (Nippon Bells) A Japanese species much like the foregoing but more tufted with smaller, wavy leaves that turn red in winter. The new growth has a delicate rosy hue. It has clear pink fringed bells almost twice the size of our native plant. It requires a moist, shady location in a rich acid leafmold soil. (pH 5-6) An extremely rare plant, almost unobtainable in the U. S.

SILENE. Catchfly. (Caryophyllaceae, Pink Family)

Silene acaulis. (Moss Pink) A dainty moss-like cushion about one inch or less high, with tiny light green pointed leaves in tight rosettes, liberally studded with bright pink stemless flowers from early June to August. A lovely alpine for rock crevices. It requires a well drained, gritty lime soil in sun or very light shade. (pH 7-8)

Silene alpestris. Little tufts of evergreen leaves about 2 inches high that sometimes form solid mats. Thin branching stems about 12 inches high bearing airy sprays of lovely white flowers in June and July. An alpine that likes a well drained gritty soil with a liberal amount of peat or leafmold. (pH 5-7) It takes full sun or very light shade.

Silene alpestris flore-pleno. Exactly like its parent above except that its pure white flowers are fully double. Same soil and exposure as above.



Silene alpestris

Silene keiskei. A very attractive tuft of little dark reddish-green leaves about 3 inches high and short 4 inch stems producing quantities of brilliant carmine flowers in August and September. It likes a well drained gritty acid or neutral soil in sun or light shade. (pH 5-7) One of the rarest and prettiest of the Catchflies.

Silene maritima. Lovely clumps of rambling stems about 4 inches high with attractive blue leaves and myriads of lovely white flowers in May and June. The neat blue leaves make it valuable as a foliage plant. It makes a wonderful picture tumbling down the side of a wall. It is easy to grow in a well drained garden soil in full sun. (pH 6-8)

Silene maritima plena. The same lovely blue foliage as above but the stems are completely prostrate, making a dense low carpet. The flowers are fully double and as much as two inches across and are displayed all through the summer. Give this rare variety the same treatment as above.

Silene pennsylvanica. Hortus II calls this species *S. caroliniana*, but the one from the Carolinas is a bit different and is not hardy. A neat cushion of stiff, long and narrow evergreen leaves about 3 inches high with ascending stems to 6 inches high bearing large rose colored flowers in close clusters in May and June. It likes a well drained gritty acid or neutral soil in sun or light shade. (pH 5-7) It is said to be biennial but I have watched one plant in a dry wall for 8 years and it is still just as lovely as the first year it bloomed.

Silene schafta. Tight little tufts of light green leaves about 3 inches high from which come many slender stems about 6 inches high bearing a profusion of clear rose colored flowers from July to October. This little gem from the Caucasus is one of the prettiest and easiest of the alpine. It likes a well drained garden soil in sun or light shade. (pH 6-8) A charming companion to *S. keiskei* for foliage contrast and a lovely wall plant.

Silene virginica. (Fire Pink) The color of the flowers is clearly described in the name. Large, deeply notched fire-red flowers in huge sprays on stems from 12 to 18 inches high over low clumps of dark green leaves. It flowers from late May to the end of June. A native of Virginia that wants a well drained acid loam in sun or light shade. (pH 5-6) Sometimes it kills itself by overblooming.

SISYRINCHIUM. (Iridaceae, Iris Family)

Sisyrinchium mucronatum album. A very rare and lovely pure white form of the daintiest of all blue eyed grasses. Dense tufts of very slender, grassy leaves about 8 inches high, with graceful stem from 8 to 10 inches high bearing large white stars in May and June. It likes a light acid loam rich in leafmold in a sunny or lightly shaded place.

SOLIDAGO. Goldenrod. (Compositae, Daisy Family)

Solidago brachystachys. The smallest and daintiest of all Goldenrods. Little wavy leaves in flat rosettes or tufts about one inch high and sturdy flower stems never more than 5 inches high with very large golden-yellow flowers in September and October. The individual flowers are larger than most of the tall kinds. It requires a well drained gritty acid soil in full sun. (pH 4-6) A rare gem that never becomes a weed.

Solidago cutlerii. Just as rare as the preceeding and only a bit taller. Neat clumps of saw-toothed green leaves about 4 inches high and 10 inch flower stems bearings large showy clusters of bright yellow flowers in June. This very interesting species from the mountains of Maine begins to show its golden color in early June and carries some through to August. It likes a poor, gritty or stony acid soil in full sun. (pH 4-6)

SPIRAEA. Spirea. (Rosaceae, Rose Family)

Spiraea bullata. (*Spiraea crispifolia*) A dwarf, compact shrub about 12 inches high with little rounded, dark green, crispy, crinkly leaves and little heads of bright pink flowers in July and August. A striking foliage and flowering shrub for a conspicuous place in sun or partial shade. It likes a rich but well drained garden soil. (pH 6-8). This species from Japan is one of the nicest dwarf shrubs for the rock garden. Newly planted young plants should be protected for the first winter.

Spiraea normandii. An extremely beautiful dwarf shrub of hybrid origin, related to the Bumalda Spiraeas. It grows into a dense little mound of tiny dark green oval leaves about 6 inches high, sometimes topped with little clusters of pink flowers. It is a shy bloomer. With the first frost of fall the foliage turns a brilliant crimson color. It thrives in any ordinary garden soil in full sun or light shade. (pH 6-8)

STACHYS. Betony. (Labiatae, Mint Family)

Stachys lanata. (Lambs-Ears) Twelve inch high clumps of large soft, white-woolly leaves of indescribable beauty. A plant that is loved by everyone as soon as they see it. It has spikes of small purple flowers but this is essentially a foliage plant. An irresistible subject for rock garden, walls, borders and bedding. It is easy to grow in any ordinary garden soil in full sun. (pH 6-8)

STOKESIA. Stokes Aster. (Compositae, Daisy Family)

Stokesia laevis kolageana. Neat clumps of long narrow leaves about 6 inches high and sturdy, erect branching flower stems from 12 to 18 inches high bearing huge lavender-blue flowers that look like a cross between an Aster and Scabiosa. The individual flowers produced from late June to October are as much as three inches across. This is a variety I developed myself in my nursery in Hillsdale. The parent plant is a tall showy border perennial but with rather coarse growth and floppy stems from 3 to 4 feet high. Over a period of years and in trials in different types of soil my new variety has always remained dwarf, and compact with the flower stems always standing upright and never in need of support. It likes best a rich garden loam that is not too limy. (pH 5-7) Full sun or very light shade is the best exposure. It likes the wet soil along the edges of pools and streams. This is the first introduction of this wonderful new plant but it will not be for sale for at least the next three or four years.

TALINUM. Sun Bright. (Portulacaceae, Purslane Family)

Talinum calycinum. Four inch high tufts of fleshy terete green leaves and graceful flower stems about 8 inches high bearing large fire-red flowers from June to October. A lovely and interesting summer bloomer that is an easy grower if it is given a sandy soil in full sun. (pH 5-8) Its bright flowers are displayed only in the afternoon.

TANAKAEA. (Saxifragaceae, Rockfoil Family)

Tanakaea radicans. Beautiful tufts or rosettes of serrated leathery dark green leaves about 2 inches high. New plants form at the ends of thin runners much like the strawberries to make a charming evergreen carpet. It has dainty spikes of foamy white flowers from June to September. It likes an acid leafmold soil in shade. (pH 4-6) Lovely on the shady side of a wall.

TEUCRIUM. Germander. (Labiatae, Mint Family)

Teucrium chamaedrys. An evergreen shrub about 8 inches high with little rigid dark green aromatic leaves. A very neat, compact grower for a specimen in the rock garden and very useful as a low hedge or edging plant. It can be trimmed to any desired height. It is topped with long spikes of showy lavender flowers in July and August. Easy to grow in any ordinary garden soil in full sun. (pH 6-8)

Teucrium chamaedrys prostratum. A delightful variety of the foregoing with long trailing branches that form solid mats about four inches thick. Long decumbent spikes of delicate lavender flowers in July and August. It makes a wonderful wall plant and is much more floriferous than its parent. Same soil and exposure as above.

Teucrium montanum. A little silvery carpet from the Orient. It has long trailing stems clothed in lovely woolly gray leaves and adorned with crowded heads of very pale yellow flowers in June and July. A fine plant for walls and sunny rock crevices where it best display its attractive soft foliage. It likes a well drained garden soil in full sun. (pH 6-8) A rare species of Germander very seldom seen in gardens.

THALICTRUM. Meadow-Rue. (Ranunculaceae, Buttercup Family)

Thalictrum kiusianum. Cute little tufts of dainty ferny foliage about 2 inches high. The lacey leaves are gray-green and tinted with purple. For a thalictrum it has very showy purple flowers in dense clusters on 3 inch stems in May and June. This remarkable little plant from Japan likes a rich acid leafmold soil in shade. (pH 5-6) It likes moisture but in a well drained place.

Thalictrum minus. Indescribably beautiful clumps of delicate lacey leaves on wiry stems about 10 to 12 inches high that form broad dense clumps. The tiny greenish flowers make this strictly a foliage plant for an acid loam or leafmold soil in sun or light shade. (pH 5-6).

THYMUS. Thyme. (Labiatae, Mint Family)

As a group the Thymes are among the most useful of plants for rock gardens, walls, terraces, paths and as ground covers. They all have attractive evergreen foliage and colorful flowers in mid-summer or fall when color is most needed. All the species and varieties listed here (with one exception) are perfectly hardy. They are all very easy to grow in a well drained garden soil in full sun or very light shade. (pH 6-8) These are the plants best adapted and mostly recommended for planting between stepping stones in walks and steps. The foliage on all the Thymes is extremely aromatic and some of the plants can be used for flavoring meats, sauces and salads. One species, *Thymus vulgaris* is the commercial Thyme, available in dry form in all grocery stores.

Thymus herba-barona. This is the true species. The one formerly listed by us as *T. herba-barona* in actually *T. vulgaris*. This one is a quickly spreading mat of tiny dull green leaves on thin creeping branches about one inch high. It has attractive light purple flowers in profusion from late May to the end of July. Color, HCC 630/2, Mallow Purple. The leaves are strongly Caraway scented.

Thymus nitidus. (French Thyme) A very choice, upright growing shrub about 8 inches high with slender stems clothed with tiny gray leaves. Attractive heads of lavender flowers in June or July. An excellent variety for flavoring foods.

Thymus serpyllum album. (Mother-Of Thyme) Thin creeping stems with very tiny light green leaves and short spikes of white flowers in Summer. One of the best for walks.

Thymus serpyllum Chapinsfield. A bright red- purple flowering variety of the Creeping-Thyme. Thick fast creeping mats of dark green leaves that turn deep red in fall and winter. If it is exposed to hot sun and in a dry soil the foliage always has a touch of red.

Thymus serpyllum conglomerata. This is my own variety of the Creeping Thyme. The ends of the branches developes club growth, thus keeping it compact. It develops into a slowly spreading mound about 5 inches high rather than a wide spreading mat like the others. It has dense spikes of bright red-purple flowers in June and July.

Thymus serpyllum lanuginosus. (Woolly Thyme) A neat carpet of little woolly gray leaves completely covered with close spikes of light purple flowers from late May to July. This is our own strain. It is not quite as gray as the usual Woolly Thyme but it is much more floriferous.

Thymus serpyllum minus. A very slow growing, compact, tiny cushion variety. It has minute light green leaves and large lavender flowers in tiny spikes in June and July. It comes from the Azores and requires a light winter protection in the north.

Thymus serpyllum vulgaris aureus. (*T. citriodoreus*) (Lemon Thyme) A beautiful mat of colorful foliage variegated with green, yellow and red from the first frost in fall to late May. It loses its variegation in summer but then you are rewarded with lovely purple flowers. The leaves are very strongly lemon scented when crushed.

Thymus transylvanicus. This one looks like a big variety of *T. serpyllum*. It forms a fast creeping mound of decumbent stems about 4 inches high with large leaves and huge spikes of large purple flowers from August to October. This is the largest flowered thyme I have seen and the latest bloomer.

Thymus vulgaris. A very robust, fast growing decumbent shrub about 10 inches high with deliciously scented leaves and long spikes of lavender flowers in June and July. This is the Thyme used in cookery. The fresh green leaves are much more flavorful than the dried produce sold in stores.

Thymus vulgaris argenteus. (Silver Thyme) A slowly spreading decumbent little shrub about 6 inches high. The tiny pale green leaves are variegated with silvery-white and topped with long spikes of lavender flowers in June and July. A lovely plant with irresistible charm.

TIARELLA. Foam Flower. (Saxifragaceae, Rockfoil Family)

Tiarella cordifolia. An attractive evergreen ground cover for a shady location in a rich acid leafmold soil. Eight inch high spikes of creamy white, fluffy, foamy flowers in May held over mats of dark green heart shaped leaves about 3 inches high. One of our Eastern woodlanders, also good for the shady side of a wall. (pH 4-6)

Tiarella cordifolia Collina. A selected pink form, discovered by Mrs. J. Norman Henry. It is similar in grace and beauty to the typical foam flower but the plant does not have runners and the flower spikes are shaded from the deep pink buds to a very delicate pale pink of the open fluffy flowers. The compact clumps are particularly ornamental and evergreen. It requires a rich acid leafmold soil in shade. (pH 4-6)

Tiarella wherryi. Attractive low clumps of hairy, green, heart-shaped leaves about 3 inches high with slender and graceful spikes of white foamy flowers in May and June. Very similar to *T. cordifolia* except that the plants do not creep by runners. It should be planted in a rich acid leafmold soil in shade. (pH 4-6)

TRILLIUM. Trinity Lily. (Liliaceae, Lily Family)

Trillium erectum. A tuberous rooted plant with stout stems about 12 inches high with three large leaves at the top and a single dark red, three petaled flower nestled in the leaves. It should be planted in thick colonies in a shady location in a cool, acid leafmold soil. (pH 4-6)

Trillium grandiflorum. (Wake-Robbin) This is the showiest and easiest to grow in the rock garden. Stout stems from 12 to 15 inches high with the three large leaves at the top and large attractive white flowers in May. The flowers turn a rosy pink with age. It can be grown in either sun or shade in a rich acid leafmold soil. (pH 4-6)

Trillium stylosum. The plant is similar in habit to the above but the gracefully nodding, long petaled flowers are a delicate shade of rose. It likes a cool, moist acid leafmold soil in shade. A little more difficult to establish than the others.

Trillium undulatum. (Painted Trillium) This one has the same stout stems and large green leaves as the others but the large flower is white, painted pink and red along the veins, giving it a very colorful appearance. It requires a cool acid leafmold soil in shade. (pH 4-6) It should be mulched with a thick layer of peat moss to keep the soil as moist and cool as possible in the hot summer months.

TUNICA, Tunic Flower. (Caryophyllaceae, Pink Family)

Tunica saxifraga flore-pleno. A large airy mass of twisting, very thin, fresh green stems about 8 inches high, bearing a profusion of tiny, fully double, rose pink flowers from June to November. It looks very much like the double Babysbreath of the florists. Excellent for walls, walks and clumps in the rock garden. It thrives in any ordinary garden soil in full sun. (pH 6-8)

Tunica saxifraga flore-pleno alba. Similar to the one above but with fully double white flowers. Under some weather conditions the flowers may be suffused with pink and they usually turn pink with age. Another perfect wall plant. Easy and permanent in any ordinary garden soil in full sun (pH 6-8)



Tunica saxifraga flore-pleno

UVULARIA. Merry Bells. (Liliaceae, Lily Family)

Uvularia grandiflora. A beautiful eastern American native for the wild garden or shaded section of the rock garden. Great clumps of large glossy green leaves on erect 15 inch stems ornamented with a stunning show of huge pendulant, clear yellow bells in April and May. It likes a rich acid loam with leafmold or humus in a moist shady location. (pH 4-6)

VACCINIUM. Cranberry. (Ericaceae, Heath Family)

Vaccinium crassifolium. Long trailing stems with tiny shining green evergreen leaves. It makes a solid carpet about 3 inches high and several feet in diameter. An exceptionally fine ground cover much like the Bear Berry but much easier to grow and propagate. It has little pink flowers in small clusters followed by small black berries. It likes a sandy or peaty acid leafmold soil in full sun or half shade. (pH 4-6)

Vaccinium vitis-idaea. (Mountain Cranberry) A charming little evergreen shrub about 8 inches high, forming compact little rounded mounds of small dark glossy green leaves that turn a colorful bronze in fall and winter. Showy clusters of waxy pink bells in May and June, followed by bright red berries in fall and winter. Of indispensable value in the rock garden because of its fine evergreen foliage, showy flowers and bright berries. It requires an acid sandy, leafmold soil in half shade or sun. It will stand full sun but it prefers part shade. (pH 4-6)

Vaccinium vitis-idaea minus. A very dwarf form that makes solid carpets of tiny dark glossy green leaves about 2 inches high. Lovely tight clusters of waxy pink bells in May followed by huge bright red berries that sit right on the foliage. This is the true, naturally dwarf North American variety of the evergreen Mountain Cranberry. It requires an acid sandy or peaty leafmold soil in shade or sun. (pH 4-6) It is a better grower in shade but the foliage keeps a nice bronze color when exposed to full sun.

VANCOUVERIA. Inside-out Flower. (Berberidaceae, Barberry Family)

Vancauveria hexandra. Large spreading clumps of dainty lacey foliage about 10 inches high with airy panicles of interesting white flowers in April and May. The flowers look as though they were turned inside-out. This lovely plant from the West Coast forests is valuable as a ground cover in shade in a rich acid leafmold soil. (pH 4-6)

VERBENA. (Verbenaceae, Vervain Family)

Verbena canadensis. A quickly spreading clump of trailing, creeping and decumbent stems about 8 inches high with deeply toothed, crinky green leaves. It produces masses of large clustered heads of bright red-purple flowers from May to November. One of the most spectacular and most persistent bloomers in the garden. It makes a perfect wall plant as well as a ground cover and grows well in any ordinary garden soil in full sun or light shade. (pH 5-8) If the soil is very rich it may tend to grow out of bounds but it can be easily controlled by shearing.



Verbena canadensis

Verbena bipinnatifida. An attractive evergreen ground cover of finely cut, crinkly green leaves on creeping stems about 2 inches high. Large heads of purple flowers are borne on short stems from May to November. An extremely hardy native of the Dakotas that is easy to grow in any ordinary garden soil in full sun. (pH 5-8) It closely resembles *V. canadensis* but it is much more prostrate and not quite as floriferous.

VERONICA. Speedwell. (Scrophulariaceae, Figwort Family)

Veronica armena. A very pretty ground cover of long trailing stem covered with deeply cut, lacey light green evergreen foliage and vivid blue flowers in loose racemes from May to July. An excellent plant for walls and walks that thrives in any ordinary garden soil in sun or light shade. (pH 6-8) It prefers half shade or filtered sunlight.

Veronica chamaedrys alba. Large spreading clumps of crisp green leaves about 8 inches high and loose sprays of lovely white flowers in May and June and sometimes later. It grows rapidly in any ordinary garden soil in sun or shade but stays lower in full sun. (pH 6-8) It is lovely tumbling down the side of a wall.

Veronica fruticans. A compact little shrubby plant about 6 inches high. Woody stems with closely set dark evergreen glossy leaves topped with short spikes of vivid royal blue flowers in May and June. It likes any ordinary garden soil in full sun. (pH 6-8) It should be cut back after flowering to encourage new growth.

Veronica gentianoides. Low tufts or rosettes of broad oval leaves about 3 inches high that form attractive evergreen mats. The foliage looks almost exactly like that of *Gentiana acaulis*. In May and June it has 12 to 18 inch stems bearing long spikes of lovely clear pale blue flowers. It looks like a dwarf delphinium. Very rare and easy to grow in any ordinary garden soil in sun or light shade. (pH 6-8)

Veronica incana. A beautiful 4 inch high clump of long soft silvery-white leaves topped with long spikes of brilliant blue flowers in June and July. Undoubtedly one of the gayest plants in the rock garden for striking foliage contrast and vivid summer bloom. A Siberian species that thrives in any ordinary garden soil in full sun. (pH 6-8) Very effective in dry walls and rock crevices.

Veronica incana rosea. Similar to the preceeding except that the foliage is not quite as gray and the long flower spikes are a pleasing shade of deep pink. Usually in bloom from early June to August. Ordinary soil in full sun.

Veronica pectinata. A fast growing ground cover that forms 2 inch thick carpets of pretty woolly green leaves studded with short dense spikes of deep blue flowers in April and May. It is thoroughly hardy and perfectly evergreen and is especially useful for walls and terraces and thrives in any ordinary garden soil in sun or light shade. (pH 6-8)

Veronica pectinata rosea. Another very quick spreading ground cover but with soft woolly gray leaves that are covered with hundreds of vivid pink flowers in April and May. A perfect wall plant and ideal for covering large bare rocks. Ordinary soil in full sun.

Veronica repens. A little mite from Corsica of indispensable value for trailing in rock crevices or filling in between stepping stones. Creeping stems that form a solid little mat of very small, shining green leaves about $\frac{1}{4}$ of an inch high and studded with comparatively large pale blue flowers from May to July. It thrives in any good garden soil in sun or light shade. (pH 6-8) It prefers light shade especially when planted in flagstone paths or terraces.

Veronica rupestris nana. Little low mounds of trailing stems about two inches high with small leathery evergreen leaves and smothered with dense racemes of clear bright blue flowers in May and June. It is a slow creeper of unknown origin but a wonderful plant for a conspicuous place in full sun or light shade and any ordinary garden soil. (pH 6-8) It is lovely in walks and walls and in rock crevices.

Veronica rupestris nana alba. The same lovely evergreen mat as above but the pure white flowers are produced in short dense spikes about two or three weeks after the blue variety starts to bloom. It is easy in any ordinary garden soil in sun or light shade.

Veronica rupestris nana rosea. Another variety of this delightful plant that is more compact and a slower grower than the others. Its flowers form a dense mass of perfectly adorable clear rose pink flowers in late May and June. One of the prettiest and most rewarding of the dwarf Veronicas for the rock garden.

Veronica spicata nana. Very low, slowly spreading clumps of small dark green leaves about two inches high topped with spikes of vivid dark blue flowers from late May to August. A constant bloomer all through the summer and never more than 5 inches high. Easy to grow in any ordinary garden soil in sun or half shade. (pH 6-8)

Veronica spicata nana alba. Similar to the one above but the leaves are narrower and light green with 6 inch high spikes of lovely pure white flowers. This one prefers half shade in any good garden soil. (pH 6-8)

Veronica trehanii. Unknown botanically but certainly a charmer in the rock garden. It forms low spreading mounds of golden-green leaves about 3 inches high and ascending stems with dense spikes of bright royal blue flowers from May to July. The golden leaves and blue flowers make a stunning contrast. It is easy to grow in any good garden soil in sun or half shade. (pH 6-8) A lovely wall plant.

VINCA. Periwinkle. (Apocynaceae, Dogbane Family)

Vinca minor. Long trailing vine-like stems with little shiny green evergreen leaves that form dense carpets to make one of the best evergreen ground covers for shady or semi-shady places. Useful for growing on banks, under trees and shrubs and other out of the way places. The evergreen carpet is studded with lovely blue flowers from March to May. It is easy to grow in a good rich garden soil in shade or semi-shade. (pH 5-7) It is too often planted on dry sunny banks, then condemned as a poor plant.

Vinca minor alba. The lovely and rare pure white flowered form of the common Periwinkle or Creeping-Myrtle. Just as good a ground cover as the other and just as fast a grower.

Vinca minor alpina. The same beautiful glossy evergreen mat as the old familiar Periwinkle, but this one has delightful double or semi-double dark wine-red flowers that are produced from March to July. It likes a rich garden soil in shade or half shade. (pH 5-7)

VIOLA. Violet. (Violaceae, Violet Family)

Viola arenaria rosea. Low clumps of small conventional violet leaves about 3 inches high with a profusion of lovely bright pink violets in spring and summer. If the plants are cut back severely after the first flowering they will produce another mass of flowers. It likes a sandy garden soil a bit on the acid side in full sun. (pH 5-7)

Viola conspersa. A fine non-creeping clump forming violet of our Eastern woodlands with small rounded leaves in mounds about 4 inches high, bearing quantities of little violets in a pleasing shade of azure blue. It likes a shady or semi-shady place in a light acid leafmold soil. (pH 4-6)

Viola cornuta Bluette. *V. cornuta* is the botanical name for the large pansy flowered violas seen in almost every garden and nursery grown in various colors and listed under countless fancy names. Many of them are good and worthwhile plants for bedding, borders and rocks gardens, however they look too much like pansies to me. *Viola cornuta Bluette* is an exceptional plant of outstanding grace and beauty that we could not overlook. It is a selected seedling or hybrid developed by Mr. Martin J. Freese in his nursery at Caldwell, New Jersey. *Bluette* is a compact thoroughly hardy perennial violet that produces large deep violet blue flowers on short stems from March right through the spring and hot months of summer to December. Its persistent flowers and compact habit cannot be equaled by any other violet. It likes a rich garden soil in sun or light shade. (pH 6-8) A light mulch around the crown of the plant will assist in maintaining its pace through extremely hot spells and severe droughts.

Viola jooi. This dainty little plant from transylvania is a cushion of little pink flowers in April before the leaves appear. It makes a pretty little mound of dark green, pointed, heart-shaped leaves about 3 inches high that stay neat and ornamental all summer long. It likes a rich acid loam in sun or light shade. (pH 4-6)

Viola nana. (*Viola yakusimana*) The tiniest and daintiest violet I have ever seen. It grows into tight little mats of slowly creeping stems one inch or less high with tiny glossy green heart-shaped leaves about $\frac{1}{4}$ inch long. It is gayly bedecked with tiny pale lavender flowers from May to July. This little mite from Japan likes to grow in a rich acid loam or leafmold soil in sun or half shade. (pH 5-6) It prefers partial shade and is perfect between stepping stones in a walk.

Viola odorata Double Russian. Neat slowly spreading clumps of fresh green foliage about 4 inches high with a profusion of large, fully double deep violet-blue flowers in spring and fall. The foliage is evergreen or nearly so and the flowers are strongly sweet scented. One plant will perfume the entire garden. It is easy to grow in a rich loam in semi-shade. (pH 5-6)

Viola odorata rosina. This fine variety forms low spreading mats of soft green leaves about 3 inches high, covered with quantities of very fragrant bright rose pink violets in April and May and again in September and October. An old variety originated by Thomas Weston of Hillsdale, New Jersey many years ago and still a great favorite of gardeners everywhere. Easy in a rich acid loam in partial shade. (pH 5-6)

Viola odorata Royal Robe. The newest and largest of the fragrant violets. A robust grower that forms large spreading clumps of decorative foliage about 8 inches high with astonishing large rich royal purple violets on 8 inch stems in April and May and again in fall. Give it a rich acid loam in partial shade. (pH 5-6)

Viola papilionacea purpurea. A form of the common dooryard violet that grows wild in every ones garden. This variety, found by Mrs. J. Norman Henry has large heart-shaped leaves veined with dark purple and the flowers are deep violet. The attractive purple and green leaves make a nice appearance in either sun or shade in a rich acid loam. (pH 5-7)

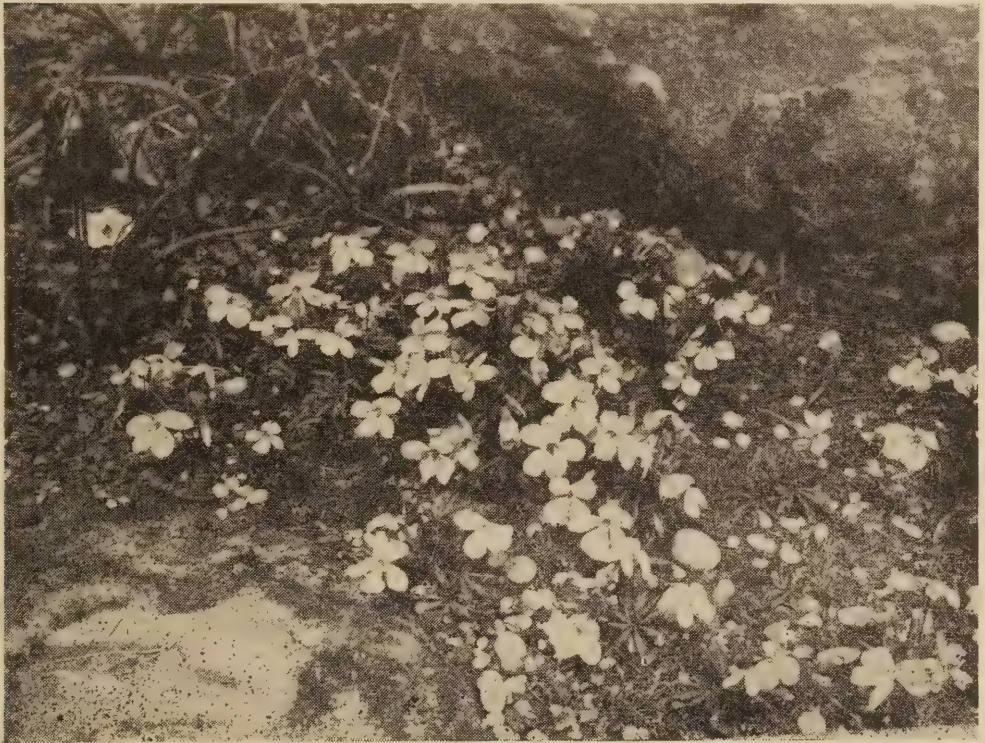


Photo by G. G. Nearing

Viola pedata Tuscaloosa

Viola pedata. (*V. pedata bicolor*) Very attractive little clumps of dark green, deeply cut leaves about 2 inches high, topped with beautiful large pansy-like flowers of rich colors. The two upper petals are a deep velvety purple and the three lower ones are a clear pale lavender. This astonishing little plant is long lived and easy to grow if it is given a very well drained, sandy acid soil in full sun. (pH 4-5)

Viola pedata lineariloba. The same little tufts of Birds-Foot leaves but all the petals of the lovely large flowers are the same lavender color. Give it a well drained sandy acid soil in full sun. (pH 4-5)

Viola pedata Tuscaloosa. A variety of the lovely Birds-foot Violet found on a hillside near Tuscaloosa Alabama. It has the same attractive leaves as the others but the charming lavender flowers are about twice the size of the others. It must have a well drained, sandy acid soil in full sun. (pH 4-5) This and the others produce their flowers in May and June and again in September and October.

Viola priceana. (Confederate Violet) Quickly spreading masses of large heart-shaped leaves about 5 inches high with an abundance of large white flowers in April and May. Each white flower has a dark blue spot in the center. Easy to grow in any ordinary garden soil in sun or light shade. (pH 5-7) It seeds itself freely therefore it should be watched.

Viola priceana alba. An attractive variety of the foregoing with smaller leaves in more compact, less rampant clumps. The lovely white flowers have only a faint shading of blue. Give it any ordinary garden soil in sun or light shade. (pH 5-7)

WALDSTEINIA, Barren Strawberry. (Rosaceae, Rose Family)

Waldsteinia fragarioides. An excellent ground cover of extremely glossy green strawberry leaves about five inches high. Small but showy vivid yellow flowers just above the evergreen foliage in May. An eastern American woodland plant that requires a rich acid loam or leafmold soil in shade or half shade. (pH 4-6) It is good as a ground cover under conifers, Rhododendrons and other dark shady places.

ZINNIA, (Compositae, Daisy Family)

Zinnia grandiflora. A thoroughly hardy, perennial Zinnia native to the Dakotas and perfectly adaptable to the rock garden. It forms clumps of gray-green linear leaves on decumbent stems about 5 inches high and bears lovely vivid yellow flowers from July to October. A wonderful summer blooming plant for the rock garden or wall garden. It must have a very well drained, gritty neutral to limy soil in full sun. (pH 7-8)

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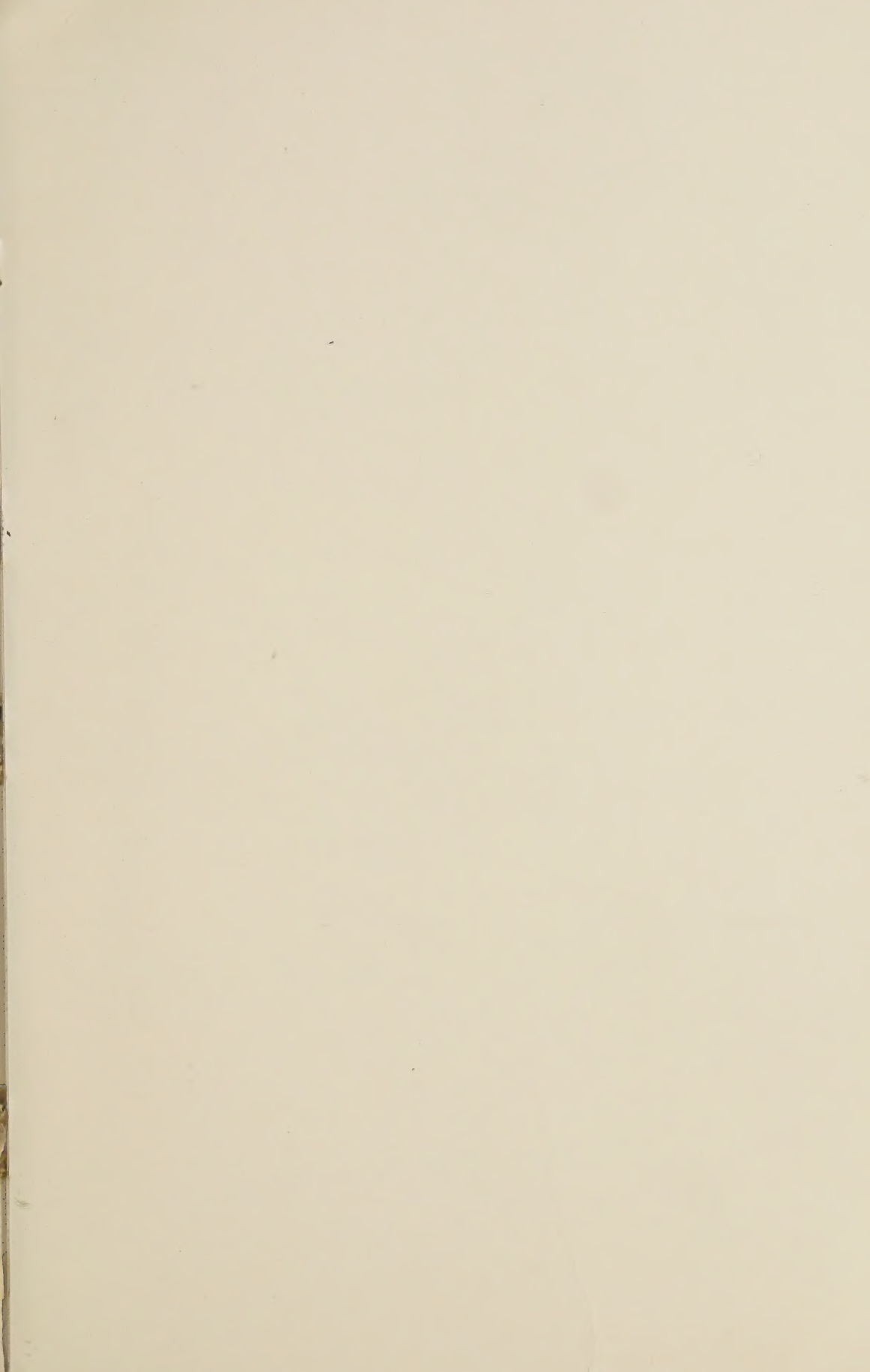
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COMMON NAME CROSS INDEX

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Barren Staw- berry	Waldsteinia	96	Common Name	Botanical Name	Page
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MEMORANDUM





Courtesy American Rock Garden Society

Primula japonica

Prepared by Walter A. Kolaga